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ABSTRACT

The HI-FI (Hearing-Impaired Formal Inservice) Program is described as a set of inservice materials targeted for workshops of regular classroom teachers and other school personnel concerned with school district and classroom management of hearing impaired (HI) children. An introductory section focuses on the design of the program materials, characteristics of workshop leaders, inservice programing, optimal time frames for presentation, the target population, and a glossary of common terms. Mainstreaming is explained with reference to the Cascade Model, multiple team approaches to the management of HI children, educational options for the HI, and alternative support services for school districts. Material on the nature of HI address such topics as the human ear; audiograms; the decibel; the impact of HI on psychosociological, adademic, and language development; and hearing aids. Training methods are explicated in discussion of methods of communication, factors in speech production, aural rehabilitation, and a socialization curriculum. Aspects of successful mainstreaming are considered, including the teacher's role, curriculum, language arts-mathematics curricula, media, and the physical and educational classroom environment. Guidelines are provided for orientation programs for HI children and their normal peers. Included is information on state administrations for special education, special schools for the HI, selection organizations and publications, instructional material centers for handicapped children, teaching resources, vendors, and transparency masters. (GW)

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HEARING-IMPAIRED FORMAL INSERVICE PROGRAM

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LINDA W. NOBER, ED. D., PROJECT COORDINATOR

NORTHEAST REGIONAL MEDIA CENTER FOR THE DEAF

EC 062 947

HEARING IMPAIRED - FORMAL IN-SERVICE PROGRAM

Linda W. Nober, NRMCD, Project Coordinator

Shirley Alves, NRMCD, Graphic Artist

Ann Clark, Tennessee School for the Deaf

Sheila Helfgott, NRMCD

Dulcie Hunt, Amherst Public Schools

Stanley Patrie, NRMCD

Sharman Weiner, NRMCD

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NRMCD Staff

Raymond Wyman, Director
Todd Eachus, Associate Director

Meredith Cadwgan, Secretary
Jean Cowieson, Operations Manager
Bob Dickinson, MSP Student
Gaspar DiPasquale, Technical Assistant
Ann Harris, Principal Clerk
Marybeth Nixon, Senior Clerk/Typist
Jane Resnick, Senior Clerk/Typist
Allison Rossett, Staff Associate
Karen Thomas, Supervisor of Field Services
Anthony White, MSP Student

Planning Group

Leonard Goldberg, Boston School for the Deaf
Edward Mysak, Teacher's College, Columbia University
Daniel Sage, Syracuse University
Florence Wiener, Teacher's College, Columbia University
Hollis Wyks, NJ State Department of Special Education

Evaluation Group

Linda Cook, Holyoke, MA

Geraldine Frasier, Greenfield Public Schools, MA

Carlene Kallgren, Northwood School District, NH

Merle Green, Hamden Public Schools, CT

Doris Sage, Syracuse Public Schools, NY

Larry Sexton, York School District, PA

Marilyn Teitelbaum, Northport School District, NY

Roger Wallace, Worcester Public Schools, MA

Advisory Group

Vincent Aniello, Lexington School for the Deaf

Milo Bishop, NTID

Frank Caccamise, NTID

Marilyn Enders, NTID

Herbert Goldstein, Yeshiva University

Barbara Jackson, Boston Public Library

Fred Miller, NH Department of Special Education

Doris Naiman, NYU Deafness Research & Training Center

E. Harris Nober, University of Massachusetts

Roy Nonnemaker, University of Massachusetts

Richard Schiefelbusch, Bureau of Child Research, Kansas

Ross Stuckless, NTID

Richard Thompson, EDCO Boston

Carol Tipton, NYU Deafness Research & Training Center

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FOREWORD

The Northeast Regional Media Center for the Deaf was established by the USOE Bureau of Education for the Handicapped in 1966 to explore all possible ways to improve education of the deaf through the wide and wise use of educational media, technology and systems. At the same time three centers for the deaf and fourteen centers for all handicaps were established and integrated into a network to serve the handicapped in a national program called the Special Educational Instructional Center Network. (SEIMC)

These centers have made a tremendous impact on education of the handicapped. Teachers of the handicapped now have better classrooms, better equipment, better materials and better training for applying instructional media and technology than any other group of teachers. Handicapped students in special schools and classes have far better learning conditions related to their special needs than ordinary students.

But now, two important changes are occuring that will make new arrangements imperative. The network of Special Education Instructional Materials Centers is to be terminated, and there is a tremendous movement to get handicapped students out of special schools and classes and into regular classrooms. Unless new arrangements are quickly made, handicapped students will likely not have the media resources that have been important contributions to their success.

A new network of thirteen Regional Resource Centers and thirteen Area Learning Resource Centers is to be operational in the fall of 1974. The RRCs will make diagnoses and prescriptions and the ALRCs will assemble, integrate and publicize information about needed equipment, materials and techniques. A National Center for Educational Media and Materials for the

Handicapped (NCEMMH) has been set up at Ohio State University in Columbus, Ohio. New national centers dealing with hearing impairment, visual impairment, other handicapping conditions; as well as a depository for the SEIMC are currently being negotiated for fall 1974 operation. Information regarding these centers is available from the Bureau of Education for the Handicapped.

Many teachers in regular classrooms will be welcoming handicapped students for the first time. They will, in many cases, be ill prepared to provide for the special needs of these students, particularly the deaf and hearing impaired. Since severe hearing impairment is infrequent, and its diagnosis has generally meant immediate removal from regular classes; most teachers and students have never encountered such students, to say nothing of trying to integrate and educate them.

This handbook is the last major undertaking of the Northeast Regional Media Center for the Deaf. It is not a plea for "mainstreaming" of the hearing impaired in regular schools and classes or a plea for continuing them in special schools or classes. It is a plea for understanding the tremendous handicap these students have and making the very substantial arrangements for their social and educational success if they are to be integrated into the regular school programs.

Many of the resources of our center were devoted to the creation and production of this handbook during the summer of 1974, because it seemed so important to us. We hope that all teachers who welcome the hearing impaired into regular classrooms will find this handbook of help.

Raymond Wyman

Dr. Raymond Wyman, Director
NORTHEAST REGIONAL MEDIA CENTER
FOR THE DEAF

INTRODUCTION

Purpose of the Material

The HI-FI Program, developed by the Northeast Regional Media Center for the Deaf, was designed to be used as the basis of an in-service education program within elementary public schools. These materials are targeted for workshops comprised of classroom teachers and school personnel, and as such, relate directly to school district management and classroom management of the hearing impaired child.

Design of the Materials

The materials provided for the workshop leaders are: a manual, transparencies, a 12 minute video tape (1/2 inch), a 7 minute audio cassette. In order to present the materials, the following equipment is necessary:

1. An overhead projector
2. A tape recorder, cassette type
3. A 1/2 inch video tape recorder unit (new format) with monitor (optional).

Instructions for the duplication of the illustrated transparency masters are included at the back of the HI-FI manual.

The materials have been divided into several sections. The major sections are: (1) Introductory Materials, (2) Philosophy of Mainstreaming, (3) Hearing Impairment, (4) Educational Practice in Schools for the Deaf, (5) Public School Accommodations, (6) Orientation to Hearing Impairment, (7) Resources for the School. This design provides information concerning the most important problems of mainstreaming the hearing impaired child into public schools.

These materials provide for flexibility in presentation. Decisions regarding inclusions, additions, time fames, credit systems and the like, should be approached on an individual school district basis. The needs of a particular district can best be determined by the district personnel and administration, along with representatives of state departments of education and alliances with neighboring institutions of higher education.

The hearing impaired child who shall now receive his/her education as close to the mainstream of public education as possible, may require special consideration in planning and implementation of performance objectives. These materials were designed to enhance the positive adjustment of the hearing impaired child to the regular public school. It was determined that this goal could best be attained by providing school district personnel (particularly classroom teachers) with information, alternatives, resources, references, and creative ideas; which could then be evaluated and implemented on an individual basis.

Certain assumptions have been made regarding the school district and the family of the hearing impaired child. These assumptions include:

1. The availability of trained personnel (within traveling distance) to provide additional information regarding hearing impairment.
2. The guidelines for candidates to be integrated would have been established with flexibility for each child on an individual basis. These guidelines would have been established in conjunction with schools for the deaf, parents, child development centers, rehabilitation centers, or some other suitable group.

3. A variety of alternatives could be instituted within a school district or within neighboring school districts, so that adequate support services could be initiated for the individual child.
4. Each school district could approach children with special needs with considerations which reflect maximum cultural involvement within the mainstream of public education without undue pressures on the child and his/her family.

Information for the Workshop Leader (Trainer)

These materials were designed to be used by a professional within a school district or a state department of education. The materials provide alternatives for presentation which are to be determined by the individual school district. Some considerations for the use of these materials by a school district are:

1. availability of suitable trainers
2. methods of in-service programming
3. optimal time frames for presentation
4. target populations.

Trainers

The intent of this project was to provide materials for a specially prepared workshop leader (trainer with experience in workshop presentations) to be used at the discretion of that person. In order to facilitate this flexibility, a variety of materials and content have been provided. Suitable leaders could be drawn from personnel who possess academic and experiential background in hearing impairment (i.e., speech and hearing specialists, hearing clinicians, psychologists, school nurses, pupil personnel services administrators, special education teachers, media specialists for the handicapped, state department representatives in special education, staff of audiologic centers, personnel of schools for the deaf or other knowledgeable professionals.)

It is assumed that each specialist will bring specific knowledge to the workshop. However, an overview of the problems and strategies which might be employed to enhance the adjustment of the hearing impaired child have been provided. The trainer is provided with specific references reflecting the most important writings on that topic. These references are divided according to the section to which they relate most closely.

In addition, a number of suggestions to the trainer are provided for each of the sections. These suggestions provide discussion topics or questions relevant to the section. The purpose of these suggestions is to personalize the materials for a particular school district. Large and small group discussion topics have been devised which relate the materials directly to school district levels. The trainer and participants are encouraged to generate additional suggestions for implementation and discussion.

Methods of In-Service Programming

Individual school districts utilize various formats for in-service education. At present, there is a nation wide mobilization to provide adequate, interesting and productive in-service workshops on a school district level. The materials provided within the program can equate to various reward systems for teachers, either through alliances with nearby insitutions of higher education or state department programs. Approximately 6-10 hours of materials and discussion topics have been provided. This information can be equated with the variety of systems available for in-service education programs.

It is possible for these materials to be used independently i.e., apart from an in-service program. Individual teachers may avail themselves of these materials prior to the program planning for a severely hearing handicapped child's integration into a school district. In these cases, it is recommended that consulation be arranged with available personnel in order to plan for the alternatives necessary to accommodate the severely hearing handicapped child.

Optimal Time Frames for Presentation

These materials can be presented in a number of different time sequences. Some general sequences are:

1. Four sessions of two hours duration
2. Two sessions of four hours duration
3. One session which spans an entire day.

Many other combinations are available depending upon the strategies of the particular school district. The materials are divided in such a way as to enhance their use sequentially.

Target Populations

These materials have been designed specifically for classroom teachers who will be responsible for providing educational alternatives for hearing impaired children. Ancillary school personnel, non-academic personnel, parents, rehabilitation personnel, and other groups have been targeted as well.

The workshop leader (trainer) can determine the most comfortable size for audience participation. Ideally, groups of 10-20 are most responsive to the techniques which are being described. Persons who represent a variety of teaching styles, educational backgrounds, disciplines, and experiences can provide for group participation which is informative and constructive.

Terminology

The following list defines some terms used in the program:

Acoustic Feedback - A high pitched squeal emitted from a hearing aid due to excessive output, microphone receiver proximity, or loose earpiece.

Acoustics - The science of sound including the origin, transmission, and effects of mechanical vibrations in any medium.

Adventitious Hearing Loss - The loss of hearing acquired through illness or accident which occurred after birth. Time of occurrence may influence language and speech patterns.

Amplification - A gain or increase in the intensity of sound.

Aphasia - A loss of the ability to use symbolic language due to injury, disease or maldevelopment of the brain.

Audiologist - A professional specialist in the science of hearing who typically deals with the assessment and rehabilitation of the hearing impaired.

Audiogram - A graph of the hearing threshold levels showing the number of decibel loss at each frequency.

Auditory Discrimination - The ability to differentiate among sounds.

Auditory Sensitivity - Capacity to detect auditory signals. This information is then plotted on an audiogram as the threshold.

Auditory Training - Teaches auditory discrimination skills, identification and recognition of speech and nonverbal sounds, and the development of auditory memory to those who have residual hearing.

Aural/Oral - Use of only speech and lipreading in communication.

Air Conduction - The process by which sound passes through air in the outer ear canal to the inner ear.

Air-Bone Gap - The differences between a person's bone conduction hearing thresholds and his air conduction hearing thresholds as shown on his/her audiogram; it reflects the integrity of the middle ear.

Bilateral - Referring to the left and right sides.

Binaural Hearing - Using both ears.

Binaural Hearing Aids - A complete set of amplifiers, receivers, and microphones for each ear.

Bone Conduction - The process by which sound passes through the facial and cranial bones into the inner ear; it reflects the integrity of the inner ear.

Central Hearing Loss - Auditory impairment due to dysfunction of the cortex or central nervous system.

Cascade Model - A continuum of educational placements which provide alternative settings designed for children with special needs. The 6 stages range from total integration to special hospitalization facilities.

Conductive Hearing Loss - Hearing impairment due to interference with the acoustic transmission of sound to the sense organ. This type of loss may be receptive to medical or surgical treatment.

Congenital Hearing Loss - Hearing loss present at the time of birth.

Deafness - Refers to a complete or severe loss of auditory sensitivity. The severity of the loss makes auditory discrimination relatively nonfunctional.

Decibel (dB) - A decibel (1/10th of a bel) is a unit (of measurement) of the relative intensity of a sound.

Diphthong - A speech sound gliding continuously from one vowel to another in the same syllable.

Earmold - The plastic piece which couples the hearing aid to the ear.

Electroacoustic - That aspect of electronics which deals with the transformation of electricity into acoustical (sound) energy, and vice versa.

Fingerspelling - A form of communication using finger configurations to represent each letter of the alphabet.

Frequency - The measure of a sound wave in cycles per second vibration, referred to as Hertz (Hz). The average extended normal frequency range for humans is between 20-20,000 Hz.

High Frequency - Refers to frequencies above 1000 Hz.; whereas Low Frequency refers to those frequency below 1000 Hz.

Hard of Hearing - Applies to persons possessing enough residual hearing to use his hearing aid as a primary form of communication.

Hearing Aid - An electronic device which amplifies sound.

Hearing Clinician - A professional specialist trained in the fields of speech, audiology, language pathology, and/or the education of the deaf who can be an aid in the placement and programming of hearing impaired children into the public classrooms, as well as provide support and information to the staff.

Hearing Impairment - The condition of hearing loss, ranging from mild to profound, which is depicted on an audiogram. This loss can be broken down into 5 categories: mild (27-40 dB), moderate (40-55 dB), moderate-severe (56-70 dB), severe (71-90 dB), and profound (91 dB and above).

Hearing Threshold - That minimal level which produces an auditory detection sensation, usually 50% of the trials.

Hertz (Hz) - Named after Heinrick Hertz, a German physicist, designating cycles per second (cps) - a measure of frequency.

Intensity - Refers to the measure of the energy flow or the magnitude of the sound wave; measured in decibels and interpreted psychologically as loudness sensation.

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Itinerant Teacher - An educator (aide) who is utilized as an academic tutor, providing the hearing impaired child with more individualized or small group instruction.

Mainstreaming, Integration, Maximum Cultural Involvement or Fusing - An effort to achieve equality of educational opportunity for hearing impaired children and other exceptional children attending public schools. The Cascade Model was adopted to provide guidelines for integration of students with special needs.

Manual Communication - A system of gestures, fingerspelling and body movement which convey meaning.

Mixed Hearing Loss - A hearing loss which is a combination of both conductive and sensori-neural impairment in the same ear.

Monaural - Relates to receiving sound through one source or ear.

Nasality - The quality of speech sounds the nasal cavity is used as a resonator.

Noise - Unwanted sound as differentiated from the important signal (speech). Background noise refers to continuous or sporadic unwanted sounds.

Otologist - A medical specialist in the field of diseases and surgery of the ear.

Otology - The study of diagnosis and medical treatment of the ear.

Phoneme - A group or family of closely related speech sounds which have the same distinctive acoustic characteristics.

Pitch - The psychological interpretation of frequency.

Residual Hearing - Refers to the remaining hearing capacity in severe and profound hearing losses.

Resource Room Teacher - A certified teacher of exceptional children, including the hearing impaired who provides instruction for part of the day within a public school setting apart from the child's regular classroom.

Retrocochlear Hearing Loss - Auditory impairment of the eighth cranial nerve or pathways conecting the cochlea to the brain.

Rubella (German Measles) - A disease which if acquired during the early stages of pregnancy may cause severe hearing impairment to the unborn child. (Other consequences include blindness, cerebral palsy, cleft palate, mental deficiencies, learning disabilities, etc.)

Sensori-neural Loss - Hearing loss due to abnormality of the sense organ either in the inner ear or along the auditory nerve.

Signal to Noise Ratio - The relationship between the intensity of speech and the intensity of noise in a particular communicational situation.

Sign Language - A form of communication using signs and symbols to convey a message.

Speech Pathologist/Speech Clinician - A specialist in the areas of speech, hearing and language disorders.

Speechreading or Lipreading - Refers to the ability to understand spoken language through observations of lip movement and facial expression.

Tutor - A resource person who can provide individual or small group instruction for the hearing impaired child who is being integrated into the public school classroom.

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Philosophy of Mainstreaming

PHILOSOPHY OF MAINSTREAMING

Introduction

History of Mainstreaming

During the past decade an intense national effort has been made to achieve equality of educational opportunity for children. Specific concern for the educational opportunities available to children with special needs is included in this national effort. Leaders in the fields of special education, education of the deaf, medicine, rehabilitation, speech pathology and audiology and others, began to focus on a national goal for children with special needs. This goal was the upgrading of educational alternatives, by achieving educational placement as closely associated with normal schooling as possible. Parallel to this educational movement, parent groups proceeded to foster similar public awareness through legal action in behalf of their children. Most court decisions favored or mandated upgrading of educational options.

The Cascade Formula

A model (Deno, 1973) for increased quality educational services for handicapped children was proposed and adopted by several national groups. This model, known as the Cascade model, provides guidelines for a continuum of services for children with special needs. This Cascade, or series of educational alternatives, is the motivating basis for the increase in the numbers of children with special needs being placed in regular public schools.

Federal and State Legislation

Organizations such as: United Cerebral Palsy, American Association for Mental Deficiency, American Speech and Hearing Association, and particularly, The Council for Exceptional Children, encouraged legislation which would support the effort to upgrade educational facilities and programs. The federal government (Bureau of Education for the Handicapped, Department of Health, Education and Welfare) in concert with state departments of education supported legislation. Expanded services for handicapped children were encouraged, and the costs of the services were designated to be borne by federal and state support. This trend culminated in the proposed federal legislation (Senate Bill S6, House Bill, HR 70) currently under consideration by Congress. Several individual states have already passed such legislation (Arizona, Arkansas, Connecticut, Colorado, Florida, Massachusetts, Mississippi, New Jersey, Tennessee, and Texas.) Similar legislation is under consideration in many other states. The legislation purports to provide services for children with special needs which are as closely related to regular public school services as possible.

Hearing Impaired/Mainstreaming

Children with hearing impairments constitute a large group of children with special needs who have been designated to receive expanded educational services. These children appear to be a target population for implementation of the cascade model. In order to effect these expanded alternatives, parent groups and educators are encouraging more and more severely hearing impaired children to receive their education in regular public schools. As a group, mild-moderately hearing impaired children have a long and consistent history of integration into the mainstream of public education. The specific difference in the current trend appears to be the increased severity in the degree of hearing impairment of the child who is participating in mainstream education.

Maintreaming for hearing impaired children can be an attainable goal. In order to reach this goal, several demands will be placed on school districts, administrators, state department of education representatives and teachers. A crucial responsibility appears to rest with the classroom teacher and her/his ability to prepare for and deal with the severely hearing impaired child.

Local Effects of Mainstreaming

For more specific information regarding individual state educational policy, State Departments of Education of each state should be contacted. A list of special education personnel by state are included in the reference section of this manual. State teacher organizations are also apprised of current legislative practice in individual states and their effect on classroom teacher responsibilities. Most central offices of individual school districts have lists of regional and state organizations serving their populations. These resources can be most helpful in guiding teachers and administrators to understand the implications and implementation practices which relate to an individual school district.

Transparency #1 The Cascade Model

Purpose: This transparency depicts the guidelines of educational alternatives for children with special needs. Hearing impaired children are members of a target-group of children with special needs, who are encouraged to be placed educationally ("Entry Level") as high along the continuum of regular public school attendance as possible.

Implications/Hearing Impaired

The implications for the hearing impaired child by level of cascade are:

1. Attendance in a regular public school without special services for the hearing impaired child. The child participates as a member of a class without ancillary services beyond those available to other class members, i.e., speech therapy, remedial reading.
2. Attendance in a regular public school which provides necessary tutoring, itinerant teachers, resource room attendance, amplification modifications, buddy system, interpreters, or other support services.
3. Attendance in a regular public school, in special classes for hearing impaired children, with opportunities for interaction and participation with normal hearing children wherever feasible (special academic subjects, or non-academic subjects).
4. Attendance in a regular public school in special classes for hearing impaired children, with limited social non-academic interactions with normal hearing children.
5. Attendance in a special school for children with hearing impairments. Limited interactions in a nearby regular public school with normal hearing children are scheduled in order to

facilitate socialization.

6. Attendance in a special school for hearing impaired children with limited interactions with normal hearing children or adults.

Determining Entry Level

The primary goal for the education of children with hearing impairments, according to the philosophy of the Cascade Model, is the achievement of the maximum level of integration with the normal hearing population as possible both educationally and socially. This philosophy is currently supported by many educators of the deaf, school administrators, state department personnel, and parent groups; but is proposed on an individual basis, i.e., decisions regarding what "entry" level a particular child shall have are determined by the appropriate personnel for that individual child. Personnel from the child's school in conjunction with parents and personnel of the receiving school should jointly be responsible for determining entry level.

Transparency #2 Multiple Team Approaches to the Management of the Hearing Impaired Child

Purpose: This transparency depicts the significant number of people who can be involved in determining the educational environment for a hearing impaired child who is entering the mainstream of public education. Although many influences are similar to those which affect the normal hearing child, there are qualitative and quantitative differences.

It is possible to dichotomize the groups of people who aid the hearing impaired child into two sub-groups; (1) those whose influence is community-based, and, (2) those whose influence is primarily within the scope of the school. Hearing impairment implies both medical and educational diagnostic prescriptions, prosthetic devices, family decision-making and awareness, etc. It is due to the qualities of "hearing impairment" and not the child or his family, that the influence of such a vast number of people must be taken into consideration. These groups of people; community-based and school-based, function as "teams", or individuals, with the child the central figure.

Community Based

1. parents
2. extended family
3. physician
4. hearing aid dealer
5. speech and hearing center personnel
6. church officials
7. state agencies--bureau of mental/public health

8. deaf clubs - organizations of hearing impaired persons
9. community activities - neighbors, friends, child-centered activities, (Cub Scouts, Little League, etc.)
10. educational organizations - serving hearing impaired persons, Volta, Exceptional Parents, etc.
11. Rehabilitation counselor - vocational services

School Based

1. classroom teacher
2. school principal
3. psychologist - guidance personnel
4. speech and hearing specialist
5. resource room teacher
6. ancillary personnel - bus driver, crossing guards, aides, interns, cafeteria personnel, and others with limited but frequent contact.
7. ancillary teachers - art, music, physical education, foreign language teacher, recreational personnel, librarian, media specialists.
8. school nurse
9. interpreters

Transparency # 3 Educational Options for Hearing Impaired Children

Purpose: This transparency depicts the changes in options for the educational placement of the hearing impaired child both before and after the legislative and educational mandates for integration.

Factors Determining Educational Placement

A number of factors have remained relatively constant regarding the decision-making process for placement of the hearing impaired child. The factors are: the age of the child, the intellectual and academic performance of the child, parental attitudes, incidence of hearing impaired children within a community, quality of available services, social development of the child, distance to differing educational services, financial arrangements, philosophy of program alternatives, etc.

Previous Options

Previous to the current trend toward mainstreaming the educational options were:

1. Residential Schools for the Deaf - public or private boarding schools which provide complete services of varying design for hearing impaired children.
2. Self-Contained Day Classes - Day classes for hearing impaired children in large and/or metropolitan school districts which functioned as self-contained programs for the deaf. In some instances a particular school within a district was designated for classes for hearing impaired children, in other instances several classes were self-contained in a section of a particular school of a district.

Current Options

With the current trend toward maximum integration of hearing impaired children several new options have become available. They are:

1. Full integration
   a. Non-Special Programming - the hearing impaired child attends classes (academic and non-academic) with normal hearing children, receiving only those special services available to all children within the classroom, i.e., speech therapy, special reading programs, etc.
   b. Special Programming - the hearing impaired child attends classes (both academic and non-academic) with normal hearing children. Part of some or all days, he participates in additional programs such as resource room, itinerant teacher program, tutoring, interpreters, etc.
2. Partial Integration
   a. Traditional - the child is integrated into normal hearing classes from separate self-contained classes for the hearing impaired for those subjects in which the staff feels he can participate.
   b. Individual Non-Academic - the child is integrated into specific classes for non-academic areas such as: art, physical education, lunch, special programs, homeroom, free play, story time, etc.
   c. Group Non-Academic - the child is integrated for specific activities as noted above (b) along with a group of his/her

hearing impaired classmates. Sometimes the teacher of the hearing impaired class attends the specific activity with the group of hearing impaired children.

d. Informal Integration - the child is integrated individually or with a group of hearing impaired children for short term projects with or without the special teacher. These activities are temporary in nature and do not require structure.

e. Reverse Integration - normal hearing children are brought into the self-contained class for the hearing impaired in order to participate in academic or non-academic subjects which are short term, temporary and flexible in nature.

Responsibility of School Districts

These varieties of programming are presently available in most states. Individual districts, teachers, and parents, may wish to incorporate some of these alternatives in order to provide adequately for the child. Since a major concern of the decision-making personnel is to adopt a placement situation for the child which will provide for a "success experience," each school district that is contemplating placement for a child should be able to have a series of options for the individual child, without regarding the alternatives as "failure experiences".

Transparency #4 Alternative Support Services for School Districts

Purpose: The purpose of this transparency is to depict some of the alternate systems which can provide special help for the hearing impaired child within the regular classroom or school. Some combination of these options may be necessary for individual schools. A variety of financial and educational considerations come into play; however, implementation of some of these approaches will probably enhance the hearing impaired child's adjustment and function in a regular school.

The Resource Room - a special room of a school, staffed by a trained teacher of the hearing impaired, speech specialist, hearing clinician, special educator, or other specially trained professional. This room provides opportunities for hearing impaired children to receive counseling, tutoring, remedial work, and academic enrichment activities. The room is usually equipped with a variety of audio-visual equipment and materials which enable the hearing impaired child to make maximum use of residual hearing and primarily visual images often on an individual basis. The resource room approach is the most consistently referred to in the literature as helpful to the child who is meaningfully integrated but who receives special tutoring during a portion of the instructional day.

Interpreter-Tutor - The introduction of an interpreter (hearing persons competent in transmitting spoken information through the use of manual signs and/or fingerspelling) is relatively new in elementary school settings as an adjunct support service for hearing impaired children. The factors regarding the employment of interpreters are: number of interpreters available, number of hearing impaired children in a particular class, familiarity with signs and fingerspelling on the part of the children being integrated, parental attitudes, number of public school personnel interested in participating in the program, success of the orientation to deafness program for the normal hearing children and the hearing impaired children, etc. The interpretor-tutor functions as a professional tutor-aide in the classroom, sometimes on a one-to-one level with the hearing impaired child. This support service can be most effective with children who have previously been educated by one of the many manual-aural systems, since the basic structure of the teaching of language can be maintained for the hearing impaired child. The speechreading ability and residual hearing of the hearing impaired child are other factors to be considered. For academic presentations, movies, group discussions and the like, the interpreter functions as a language facilitator. For part of the day, the interpreter-tutor functions as a tutor for the child (difficult material, enrichment materials, etc.).

The Santa Ana School District, Santa Ana, California, has developed this system during the past decade and can be contacted regarding a feasible plan for implementation. Several other school districts are currently reporting on the success of such programs (Del., Mass.). The implementation of the interpreter-tutor system appears to be most successful when the interpreter functions as a verbatim translator of spoken English rather than a paraphraser. This system fosters the learning of the grammatical, phonological and lexical structure of English.

Buddy System - The introduction of peer helpers, one hearing impaired, the other a normal hearing child, is currently used by many school districts. A normal hearing child functions as the key person to the hearing impaired child; sitting next to him, cueing the hearing impaired child into changes in the schedule, P.A. system announcements, nuances of interpersonal behavior, etc. This system appears to foster the "buddy" factor in social relationships apart from the academic setting. Several buddies can be selected for different portions of the day, in order to broaden the hearing impaired child's interpersonal interactions during a transitional period. Often the buddy is a volunteer, often recruited by the teacher. Typically, the buddy system pairs children with similar interests, yet differing abilities to grasp and cope with academic material. The classroom teacher role in supporting each member of the team is an important one.

Notetaker-Tutor - Hearing impaired children who are integrated into upper grade classrooms which require dictation, note-taking, written responses to reports, etc., cannot speechread the teacher and take notes at the same time. In order to compensate for the difficulty, the concept of notetaker-tutor has been introduced by the National Technical Institute for the Deaf, (NTID) Rochester, New York. The materials developed at NTID include carbon papered pads which provide the notetaker with multiple (2) copies of the same notes dictated by a teacher. A peer helper who volunteers to take notes for the hearing impaired child does not have to reproduce the notes; the carbon paper combination provides for this. It is typical that at some time during the day the notetaker will "go over" the notes with the hearing impaired child, thus functioning as a tutor for the child. The hearing impaired child has the opportunity to review the material several times (from the teacher and again from the tutor) as well as having a set of valuable notes taken by a peer. Certain presumptions are clear for the classroom teacher regarding the selection of the notetaker-tutor; similar to those which apply to the Buddy System. The personality, responsibility, interest, as well as the intellectual abilities of the peer helper are critical to the hearing impaired child and the classroom teacher.

Suggestions for the Trainer

The following problems may be discussed within the context of each individual school district. The objective is to create an atmosphere which will provide the workshop with attainable solutions to the problems which are posed by mainstreaming.

Suggestions for large group discussion:

1. At the present time, what services is our district capable of providing to individual children with special needs, specifically hearing impairment?
2. What immediate alterations of services must be undertaken? What long-range plans should be instituted in order to meet the needs of children with severe hearing impairment?
3. According to the guidelines of the state department of education and our teacher organization, is our school district able to provide resources to the classroom teacher which are mandatory for facilitating integration of the hearing impaired child?

Suggestions for small group discussion:

1. What specific suggestions and support services can be provided by personnel within the departments of our school district (i.e., pupil personnel services, special education services, ancillary personnel, administration).
2. What administrative guidelines are required in order that classroom teachers can best provide prescriptive objectives for the hearing impaired child?
3. In a multidisciplinary approach to management of the hearing impaired child, which professionals are best suited to deal effectively with the parents of the hearing impaired child?

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Hearing Impairment

HEARING IMPAIRMENT

Introduction

An Approach to Hearing Impairment

Children who have sustained a hearing impairment cannot be approached independently of their status as children. Hearing impairment is but a part of their general physical characteristics, personality development, educational experiences, familial experiences, etc. The classroom teacher's awareness of individual differences in children and general principles of child development are relied on, and underlie the mass of information presented regarding hearing impairment.

Our understanding of hearing impairment is based on information provided by several fields of study. They are: acoustics, audiology, education of the deaf, engineering, medicine, psychology, rehabilitation, special education and speech pathology. It is indeed multidisciplinary in approach. In an effort to be concise and meaningful, we have intentionally synthesized the elaborate technical information provided by these fields of study. Additional information can be found in the sources listed in the reference section of this manual and we encourage additional reading in order to enhance an understanding of the various aspects of hearing impairment.

It is very important to underscore the fact that, although all hearing impaired persons have some communication difficulties, not every person is affected in the same manner. The materials presented in this section represent the most consistent generalizations which can be made regarding hearing impairment. Each child can be thought of as unique becuase of the vast, complex interaction effect of the child himself and the hearing impairment.

Incidence

The generally accepted incidence figure for deafness in school age children (K - 12), is one tenth of one percent, or one person per one thousand persons. Hard of hearing children represent three tenths of one percent of the school age population. Generally, the accepted figure for the incidence of hearing impairment in school age children is five tenths of one percent, or five children per one thousand children. Although this figure appears rather small, it is comparable to the incidence figures for many other groups of children with special needs, such as: crippled, partially sighted, emotionally disturbed, etc. In addition, hearing impairment is frequently found in combination with other disabilities, due to the etiological agents which affect several disorders. The above figures apply specifically to children who do not evidence other combined handicaps.

Diagnosis

Before describing the specific technological aspects of hearing impairment, it is important to realize that such a diagnosis implies both educational and medical input. The family of the hearing impaired child has been exposed to the rigors and influences of the educational-medical complex. In a typical family situation, a suspicion of hearing impairment is usually first determined by the parents. The infant fails to respond to sound adequately, the startle response is inconsistent, the child develops a system of gestures for communicating wants, the developmental stages of language acquisition appear retarded, etc. It is typical that the suspicious parent will consult with a physician, who may follow-up these observations with more sophisticated diagnostic tests. Eventually, the parent and child proceed to attend diagnostic sessions at audiological centers, otologists offices, speech and hearing centers, hospital clinics, psychological centers, hearing aid dealers, and state agencies. The diagnosis of deafness in a very young child can be complex and difficult in some geographic locations. The impact of this diagnostic process on the parents and child can be traumatic and long standing. Many times parents are aware of the possibility of hearing impairment in their child due to pregnancy history, genetic factors, or the like. In these cases, the same evaluative and diagnostic procedures are usually followed. Only a few major centers in the country concentrate their efforts in providing a total diagnostic evaluation for hearing impaired children.

The family involved with providing adequate diagnostic and educational planning for the hearing impaired child carries an unusually heavy burden.

Transparency #5 The Human Ear

Purpose: This transparency depicts the functional hearing mechanism. Types of hearing impairment associated with disturbances of the anatomical or physiological mechanism are described.

Anatomy

We generally think of the ear as being divided into three parts: the outer, middle, and inner ear. These three parts are collectively known as the peripheral hearing mechanism, while the auditory pathways to the brain, as well as parts of the brain comprise the central hearing mechanism. This division has both diagnostic and educational implications.

Outer Ear

The outer ear is comprised of the auricle, or pinna, and the external auditory canal. These structures serve limited function in man. Certain congenital or traumatic problems can occur which block the opening or canal and cause mild to moderate hearing loss.

Middle Ear

The important structures of the middle ear are the tympanic membrane (ear drum), the three small bones which comprise the ossicular chain, and the round and oval windows. This portion of the ear is normally filled with air. The eustachian tube (from the naso-pharnyx) has an opening into the middle ear. A significant number of medical problems can affect the middle ear which cause hearing loss of a conductive type. Impairment to this part of the ear is frequently medically or surgically treated. A hearing loss of up to 60 dB can occur from serious middle ear problems, i.e., chronic otitis media, otosclerosis, etc.

Inner Ear

The main structure of the inner ear which is directly related to hearing is the cochlea, or end organ of hearing. This complex structure contains numerous hair cells imbedded throughout the structure. It is believed that many of these hair cells are differentially responsive to different frequencies of the hearing spectrum and ultimately synapse with the neuronal fibers of the eighth cranial nerve of the nervous system. These stimulations are ultimately transmitted to parts of the brain where perception and cognition occur.

Damage to the cochlea causes hearing loss of a sensori-neural type. This impairment is usually uncorrectable medically. The causes of cochlea damage are: diseases during pregnancy, oto-toxic drugs, heredity, childhood diseases, encephalitis, Rh-incompatibility, etc. Severe and profound hearing losses are always of the sensori-neural type.

Additional Sources

Extensive information is available concerning the physiology and anatomy of the hearing mechanism. Classroom teachers who wish to include a "science unit" on the hearing mechanism should review additional materials. Third and fourth grade science text books often include materials appropriate for elementary grade children.

Transparency #6 Audiograms

Purpose: This transparency provides the teacher with basic knowledge of the audiological configuration of hearing sensitivity. Speech range, conductive and sensori-neural impairments are depicted.

Definition

An audiogram is a graphic chart which depicts the hearing sensitivity of the ear relative to a scale of normalcy. The chart has two acoustic parameters: frequency and intensity. The frequency dimension, expressed in Hertz (formerly cycles per second) can be measured precisely; it is perceived as pitch, although not synonymous to pitch. The intensity parameter, designated in decibels (bel, after Alexander Graham Bell) denotes the acoustic energy of the sound. The human ear perceives intensity as loudness, although it is not synonomous with intensity. The combined graphic depiction of the intensity and frequency factors, present the audiologist or otologist with an estimate of a person's ability to detect sounds.

Audiology

The audiogram reflects the response to sound as provided by the audiometer, an electroacoustic mechanism which is designed to produce accurate tones or speech at internationally standardized levels of frequency and intensity. Different categories or types of audiometers are commercially available; however, assessment of hearing should not be undertaken by an unskilled person. The American Speech and Hearing Association (ASHA), 9030 Old Georgetown Road, Washington, D.C., provides individuals and school districts with names and addresses of certified personnel and centers capable of providing adequate professional services. Centers are evaluated and registered.

Purpose of Audiogram

Audiograms display the results of pure tone tests. These tests reflect a comparison of the integrity of the outer, middle and inner ear, and skilled audiologists can often determine the type and degree of loss based on the pure tone test results. Pure tone tests are referred to as air conduction tests and bone conduction tests. The common markings which are reflected on the transparencies are standardized internationally, therefore they can be interpreted from diagnostic center to diagnostic center.

Overlay #1

The Speech Range

In order to understand the most critical information on the audiogram, it is necessary to determine how well the ear performs for the frequencies which transmit the speech signal. It is common to think of the ear as capable of detecting frequencies of 20-20,000 Hz. However, audiologists are most concerned with the frequencies 250-4,000. This range includes most of the frequencies produced in conversational speech. A clear picture of the child's capacity to detect these frequencies provides the audiologist with important information. This means that although the average human ear can detect frequencies over a wide range, the information bearing frequencies for speech are 250-4,000. Often, even this range is restricted to the frequencies 500, 1,000, and 2,000, for the critical speech range. The average decibel level for these three frequencies provides the most important information for the audiologist regarding candidacy for a hearing aid, ability to respond to conversational speech, ability to hear and therefore better monitor the sounds of the language (speech production).

Overlay #2 Conductive Hearing Loss

Conductive Impairment

This graphic depiction of a conductive hearing loss provides the audiologist with information indicating the inner ear is not damaged. Any of several causative factors are possible: fluid in the middle ear, deterioration of the structures of the sound transmission system, trauma, hereditary disease. A child with this type of audiogram is referred to an otologist for medical treatment, drug therapy or surgery. The markings on the audiogram reveal that while the hearing levels measured by air conduction tests are not normal, those measured by bone conduction tests are normal. These differences (called the "air-bone gap") indicate middle ear problems.

Overlay #3

Sensori-neural Hearing Loss

Sensori-neural Impairment

The audiogram depicts hearing loss of a sensori-neural type. Both sets of markings coincide, indicating no differences between the functioning of the total hearing mechanism and the inner ear mechanism. Surgery or medication will not restore the hearing. The extent of the hearing loss is greater than that of the conductive type. More extensive tests are indicated, as well as psychological and educational assessment of the child's language abilities. Otological examination and extensive hearing aid evaluations should be performed. This audiogram, typical of a severely hearing impaired child, requires continued follow-up and referral. The notations of "diving arrows" indicate that no response was given on the part of the child, even with the audiometer at its maximum output (intensity) level.

Transparency #7 The Decibel

Purpose: This transparency compares typical familiar sound levels with decibel levels. It is designed to help develop understanding of intensity levels, hearing loss, and amplification which is required by some hearing impaired persons in order to understand speech.

Noise Pollution

Frequently, the Environment Protection Agency, or some other local agency, will refer to noise pollution in terms of decibel levels. It is in this way, the average person begins to translate decibel levels and the psychological manifestations of loudness and noise.

Definitions

A decibel (1/10 of a bel) is a unit of measurement of the relative sound intensity. It is a logarithmic ratio of power or pressure and is expressed relative to an established reference. The chart on the transparency denotes common environmental sounds and their representative decibel levels. Individuals with impaired hearing, require amplification in order to hear some of the sounds around them. It is not unusual for hearing impaired children to have difficulty in different listening situations.

Decibels and Audiograms

The information presented on the typical pure tone audiogram is basic and only reveals hearing sensitivity levels. But the problems of hearing impairment are quite complex, particularly when the hearing loss is severe.

Thus, the audiogram only shows part of the person's ability to hear - the intensity or energy which would be needed in order for that person to detect the presence of sound.

Effects of Noise

A major concern of professionals dealing with audition is prolonged exposure to sounds or noise which is so intense as to cause hearing loss. The federal government has established guidelines which, if followed, protect individuals from incurring hearing loss due to prolonged exposure to sounds of high intensity (Walsh-Healey Act). Generally, prolonged exposure to sounds above 90dB in intensity can contribute to permanent hearing loss in certain frequencies. Children and adults should be aware of the damaging effects of prolonged exposure to noise. The implications for hearing impaired children regarding continued exposure to high intensity levels are parallel to normal hearing children.

Transparency #8 The Impact of Hearing Impairment on the Psycho-Sociological, Academic and Language Development of the Child

Purpose: This transparency compares degree of hearing loss with the possible psychological impact on the child. In addition, some guidelines for expected linguistic ability are related to the degree of loss.

Degree of Hearing Loss

Hearing loss, as measured in decibels, can be equated to probable difficulties in communication, psychological adjustment, and socialization patterns. The degree of hearing loss is typically interpreted as a scale of severity, from mild loss to profound loss. Although various scales of severity are available, the most commonly referred to has been prepared by Davis and Silverman, Hearing & Deafness.

dB loss range	level	speech reception ability
25-40	slight-mild	difficulty only with faint speech
40-55	moderate	frequent difficulty with normal speech
55-70	marked	frequent difficulty with loud speech
70-90	severe	restricted to amplified speech
90-	profound	little understanding with amplification

These ranges refer to hearing sensitivity as measured by pure tone audiometry. They refer only to one parameter of hearing - intensity.

Psycho-Sociological Factors of Hearing Loss

The impact of hearing loss can be related to degree of hearing impairment, although individual differences are important. A number of emotional responses are frequently associated with children with severe hearing impairment. Behaviors such as: feelings of inadequacy, anxiety in interpersonal relations, hyperactivity, depression and feelings of inferiority are referred to in the literature. The following descriptions have been developed by Helmer Myklebust (1964).

30-45 dB loss - This amount of loss generally affects the scanning and background functions of hearing. Conversation is difficult without amplification. Socialization is typically not affected adversely; however, levels of awareness and monitoring abilities can be disturbed.

45-64 dB loss - This degree of impairment imposes some difficulties with social intercourse. Since amplification is typically advised, foreground-background difficulties can occur. Conversation is usually restricted to one-to-one levels.

65-80 dB loss - When the loss is this marked, amplification is less satisfactory. Interpersonal/social contact can be impaired. There is a great reliance on tactile and visual stimulation. Frequently, socialization becomes more restricted to persons with similar hearing losses.

80-90 and above dB loss - The hearing impaired child must rely on visual and tactal stimulation in order to maintain his/her homeostatic equilibrium. Socialization is typically restricted to other children with profound losses. Amplification may only be useful for focusing attention to loud environmental sounds.

Age of Onset and Hearing Loss

Both the degree of loss and the psychological impact of the extent of the loss are somewhat related to the age at which the child suffered the hearing impairment. Since the acquisition of language is the primary difficulty encountered by hearing impaired children, the age of onset of the hearing impairment is an important factor. Typically, two divisions are referred to: hearing impairment acquired prior to the acquisition of language (pre-lingual deafness), and hearing impairment acquired after the acquisition of language (post-lingual deafness).

Pre-Lingual Hearing Loss

Children who suffer congenital difficulties which cause hearing impairment appear to mature with the characteristics of handicappedness. Isolation, emotional adjustment problems, etc. are frequently mentioned as factors associated with pre-lingual hearing impairment. However, the most important and consistent problems relate to the difficulty in the acquisition of language which is adequate for both socialization and vocational placement. The pre-lingually deafened child spends the greater part of his academic life striving to acquire normal language facility.

Post-Lingual Hearing Loss

Children who are designated as post-lingually deafened appear to be able to retain effectively the structure of language. These children typically become leaders of the deaf community, do not suffer underemployment, appear to be psychologically "adjusted" to their hearing handicap and generally perform activities of daily living with ease. Educationally, they typically respond well to speech therapy, speechreading and auditory training techniques.

It appears that the formative years of language acquisition (0-3 years) play an important role for the child with a hearing impairment. Although these divisions are by no means universal, the age of onset of the hearing loss plays a vital role in determining both the educational and psychological adjustment of the child with a hearing impairment.

Transparency #9 Hearing Aids

Purpose: The purpose of this transparency is to help the teacher understand the parts and functions of typical types of hearing aids. Important aspects of hearing aids are emphasized in terms of teacher needs rather than electroacoustic design.

Parts of the Aid

A hearing aid functions like a telephone. It makes sound louder by picking up sounds in the environment, amplifying the sounds, and directing the sounds to the ear. Most hearing aids worn by hearing impaired children today are electronic in design. Although the external cases, brand names, and frequency responses may differ, all hearing aids consist of three basic parts. These are:

1. a microphone - which converts acoustic sound into electrical energy
2. an amplifier - which increases the strength of the electrical signal
3. a receiver, or earphone - which converts the amplified signal back into acoustic energy

The entire energy system is powered by a battery.

Types of Hearing Aids

Most people think of hearing aids as portable, and worn on part of the body. Personal hearing aids are of several types:

a. monaural body (one aid) - worn on the chest, typically in a carrier called a harness
b. binaural body (two complete aids, one for each ear) - worn in a harness set

c. monaural behind-the-ear - a small, compact hearing aid which fits snuggly behind the ear, the earphone is connected by a small cord

d. binaural behind-the-ear - two complete hearing aids, worn behind the ears or designed to be worn within the frame of eyeglasses

Other combinations exist, however, children with severe hearing impairment, typically are fitted with the above types of hearing aids.

Limitations of Hearing Aids

1. Lack of Corrective Ability

Hearing aids are not similar to eyeglasses in their corrective capacities. No hearing aid can completely compensate as eyeglasses usually can. The function of the hearing aid is to make sound louder, (increase the intensity), rather than accommodate for the variety of hearing losses. This means, hearing aids can only compensate rather than correct cochlear deficiencies.

2. Other Auditory Problems

Sensori-neural hearing losses (the type most associated with children with severe hearing impairment), is typically accompanied by concomitant problems beyond the dB loss. Some of these problems are: head noises, abnormal loudness sensitivity, reduced auditory discrimination ability for perception of speech frequencies, distortion, and sound localization problems. While audiologic centers endeavor to prescribe a hearing aid which is best suited to the individual, total compensation for the variety of problems associated with hearing impairment is not always possible. Furthermore, the design of hearing aids has been restricted by the factors of cost, size and durability.

3. Lack of Selectivity of Signal

A further complication is imposed by the fact that the hearing aid is responsive to all sounds in the environment. Thus, all sounds are amplified, or made louder. Therefore, the child wearing the aid receives the background and foreground sounds with relatively equal amplification depending on the fidelity characteristics of the unit. Hence, the electric fan noise is made equally loud as the speech of the teacher and may "mask" it out. Normally people perceptually tune out to the unwanted noises, but many children have difficulty in discriminating between the important signals they hear from the less important background sounds, particularly when amplified.

4. Upper Limits of Amplification

Another serious limitation concerns those children whose hearing impairment is so severe as to be unable to receive much useful information from the hearing aid. Since the human ear has an upper tolerance level for pain, as well as a susceptibly to damage, hearing aids cannot be constructed so as to permit intolerably loud sounds. This design feature is referred to as volume output control. Continued exposure to loud sounds or speech beyond the tolerance thresholds constrains the design of hearing aids. Therefore, severely hearing impaired children cannot be fitted with hearing aids which present speech or sound at levels beyond the threshold for pain.

Problems with Hearing Aids

The classroom teacher should be aware of common problems which arise with hearing aids and should be able to provide assistance to the hearing impaired child in the following ways:

1. Since hearing aids are energized by batteries, the teacher should keep extra batteries, provided by the parent. In order to do this, the teacher should listen to the aid daily and determine whether the battery is functional.
2. Squeal - the high pitched squealing noise which hearing aids frequently emit, is due to the receiver being placed too close to the microphone, excessive volume or a loose ear mold. The hearing aid is not functioning maximally during these squealing periods, and the teacher should be able to help the child adjust the aid in the harness or shirt pocket.
3. If the parents do not report that their child is scheduled for a recheck regarding the appropriateness of the aid, the teacher should suggest that this be scheduled. The classroom teacher is most capable of perceiving cues that the child is not functioning typically, not responding as s/he usually does, or having undue difficulty. These perceptions should warrant rechecks by the audiologic center, hearing clinician or other responsible agencies. It is not unusual for a child to periodically reject the use of hearing aids. Teachers may wish to communicate directly with the parents and/or audiology center regarding suitable methods for helping the child during these times.
4. Other parts of the hearing aid requiring the teacher's attention are the cord, the ear mold and the case. Inspection of these parts can enable the child to make maximum use of the design of the aid.

Suggestions for the Trainer

The following problems may be discussed within the context of each individual school district. A major objective is to enhance knowledge about hearing impairment and its effects upon learning and development.

Suggestions for large group discussion:

1. In what context is hearing impairment similar to or different from the other handicaps children within the school district possess?
2. How does the psychological impact of hearing loss affect general principles of child development?

Suggestions for small group discussion:

1. How can individual members of the faculty provide the most adequate input to classroom teachers regarding hearing impairment?
2. What techniques are available for the individual classroom teacher to broaden his/her knowledge regarding hearing impairment?
3. What community resources are available to the classroom teacher, the speech therapist, and the administration of the district which can enhance the general understanding of hearing impairment?

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Audio Cassette Tape Recording

The materials on this tape recording are divided into three sections: 1. Samples of the speech of children with severe hearing loss, 2. Listening simulation of the audiogram configurations of children with severe hearing loss, 3. Listening simulation of the amplification of a high quality hearing aid, with and without background noise. These materials are included in order that classroom teachers who are unfamiliar with the problems of speech production of the hearing impaired or speech perception by the hearing impaired, can have some introductory samples as models. In addition to these materials, a number of commercially available materials are recommended. Getting Through, a disc recording available from Zenith Industries is an expanded explanation of hearing and hearing loss. Dr. Philip Bellfleur has produced a tape recording of hearing impaired children entitled, How They Speak. Dr. Bellfleur's materials are available through the Northeast Regional Media Center for the Deaf. Several hearing aid companies also have materials which are available at very reasonable cost.

Section I

The materials included in this section represent three different hearing impaired children reading sentences representing everyday American speech. The children represent average speech production ability of severely hearing impaired children. The children are between the ages of 11 and 13 years of age and have been exposed to speech therapy, auditory training and other remedial programs.

Sample I

1. Ken played with his puppy this afternoon.
2. Bill loves his baby sister very much.

Sample II

1. Jack went home on the train in June.
2. Betty saw her friend on the bus last week.

Sample III

1. We have ice cream every Wednesday.
2. Susan will go home by plane in November.

Section II

The following samples are included in order to simulate the way in which hearing impaired children perceive male and female speech without the use of a hearing aid. Several degrees of hearing loss are represented. The sentences were prepared by the Central Institute for the Deaf, St. Louis, Mo., to represent everyday American speech.

Condition I

Hearing loss with absence of thresholds above 2000 cycles.

1. Why should I get up so early in the morning?
2. Do you want an egg for breakfast?

Condition II

Hearing loss with absence of thresholds above 1000 cycles.

1. Fathers spend more time with their children than they used to.
2. If you don't want these old magazines, throw them out.

Condition III

Hearing loss with absence of thresholds above 500 cycles.

1. People ought to see a doctor once a year.
2. My brother's in town for a short while on business.

Section III

The following samples of speech are included to simulate the way in which a child with a severe hearing loss who wears a hearing aid is able to perceive male and female speech. (A band pass filter which permits 280-3000 cycles per second was used.)

1. I don't know what's wrong with the car, but it won't start.
2. I don't think I'll have any dessert.

3. Where can I find a place to park?
4. Do you have change for a five dollar bill?

The following samples are included to simulate the way in which hearing impaired children perceive male and female speech with the use of a hearing aid when typical classroom noise is added to the background. (The signal to noise ratio is 5 dB, indicating the speech signal is 5 dB more intense than the classroom noise background.)

1. I hate driving at night.
2. I don't want to go to the movies tonight.
3. Be careful not to break your glasses!
4. Don't let the dog out of the house!

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Schools for the Deaf

SCHOOLS FOR THE DEAF

Introduction

Purpose

The purpose of this section is to describe some of the training methods most commonly used in schools for the hearing impaired. It is necessary for the teacher who is to work with a hearing impaired student to become familiar with some of these techniques in order to understand the prior academic experience of the hearing impaired student.

Goals of Education and Vocational Education

The goals of education of the hearing impaired are to guide the student into a self-adjusted, well-integrated, happy and fulfilling life. Education begins the moment the child's hearing impairment is diagnosed. Early fundamental training in speech, speechreading, auditory training, communication skills and behavior patterns enables the hearing impaired child to make the fullest use of his/her capacities. In residential schools for the deaf, provisions for vocational training are an integral part of the curriculum.

Teaching Techniques

To accomplish these goals the educators of the hearing impaired have developed special training techniques for teaching the students. These techniques are structured and definite. Therefore, when the student is integrated into the hearing classroom, s/he will have knowledge which has been taught systematically and sequentially. This student may have an adjustment period whereby s/he will be trying to sort all of his/her information into some workable order to himself/herself.

Observations

It is important for the receiving teacher to visit the hearing impaired student's classroom to get an overview of "the day in school".

Grade Placement

The receiving teacher should observe the student's grade placement, noting that what is called Level I in the hearing impaired school may not be equal to First Grade in regular school.

Class Groupings

The receiving teacher should observe the types of class groupings, noting that most groups are rarely more than seven or eight, except for group sports, clubs and special activities.

Textbooks

The receiving teacher should observe the types of texbooks being used, noting that many of them are teacher-made from experiences that the class has enjoyed through field trips, experiments, and units of study.

Materials

Schools for the deaf rely on good visual materials as a teaching supplement. Often all of these supplies are located in a separate room in the school and can be utilized by all of the staff.

Child-Teacher Interaction

A teacher of the hearing impaired will have formal and informal learning situations. The receiving teacher should observe the methods s/he employs for providing smooth transition from one situation to another.

The purpose of this section is to present an overview of the techniques used within the residential school, day schools and day classes. The receiving teacher must be aware that differences occur within each school and s/he can rely on the liaison personnel to provide specific information to be used in program planning for the integrated hearing impaired child.

Transparency # 10 Methods of Communication

Purpose: The purpose of this transparency is to depict the differences in the methods of communication used by the hearing impaired. There are two major philosophical approaches: Manual/Aural and Oral/Aural.

Introduction

The most significant problem in the education of the hearing impaired is that of finding effective ways of teaching language and communication. The normal hearing child acquires the language system of his/her culture through auditory and visual sensory modalities. S/he acquires a language system which is spontaneous, fluent, and adequate for communication by the age of 4. The hearing impaired does not acquire language in the same manner. A specific structured teaching system must be instituted to assist in his/her developing communication skills. Basic to all methods of communication used by the hearing impaired is the maximum use of residual hearing.

Manual Methods

An estimated high percentage of deaf children (Furth, 1973) are not able to succeed in acquiring communication skills through speech and speechreading alone. Therefore, manual communication (American Sign Language, Fingerspelling) is used as a means to establish functional communication with many deaf children. Those educators of the deaf who use manual communication with deaf students provide an effective language for children. The manual approach strives for early language and personality development through a clear, speedy and more natural mode of communication. It does facilitate the development of communication before the student learns to speak or read.

American Sign Language

The American Sign Language consists of a basic concept vocabulary employing both signs and fingerspelling. In addition, it relies heavily on face and body expressions for meanings. It has its own language rules which are sometimes incompatible with English grammar. This is the language which is well established in the deaf community. It should be noted that hearing impaired children of hearing impaired parents become proficient in American Signs very early in life.

Four Other Manual Forms

There are four similar forms of communication based on the American Sign Language. These systems employ word order or syntax compatible with English grammar:

1. "Signed English" uses signs and fingerspelling according to basic English syntax.

2. "Manual English" and

3. "SEE" (Seeing Essential English) have added morphemes or word parts which add meaning, such as word endings, verb tenses, prefixes and suffixes.

4. "Visible English" is a linguistically based system which uses the American Sign Language vocabulary. A more elaborate vocabulary of morphemes is added which take on a new meaning according to the context in which they are used.

Rochester Method

The Rochester Method uses speech, speechreading, writing and reading as a means of communication between students and instructor and adds fingerspelling in English syntax as it is spoken. This method advocates that hearing impaired must see English to learn English.

Simultaneous Method

The Simultaneous Method is the addition of speech to any form of sign language. Just by adding spoken language to the manual presentation, the sentence flow will follow more acceptable English order.

Total Communication

Total Communication is not just adding spoken language to manual communication. It recognizes the hierarchy of learning to communicate from the use of the most primitive to the more complex and sophisticated symbol systems involving all sensory modalities, visual and auditory. It urges the early use of hearing amplification and of speech. It also goes along with all of the child's natural gestures, pantomimes and homemade signs in order to encourage the spontaneous expressions of the child. In total communication the child expresses ideas primarily in sign language. These manual and visible instruments are recognized as normal means of communication for a person whose hearing is not functionally intact. Sign language is not taught but rather is used to encourage spontaneous communication using a two-language communicative exchange. Each child learns according to his/her needs and capabilities. Special emphasis is placed on the involvement of the family and the school to provide a consistent and stimulating environment in which the hearing impaired children can thrive and prosper. Many hearing impaired adults agree that the most natural and comfortable way to make themselves understood is by the simultaneous use of signing and speaking.

Cued Speech

Cued speech is a phonetic system in which one (either) hand is used to supplement (never duplicate or replace) the information on the lips in order to make the spoken message clearly understood by the speechreader. Cued speech recognizes that the lips alone do not accurately identify many spoken sounds. It is done entirely according to the pronunciation, not spelling.

Verbotonal Method

A technologically based method such as the Verbotonal Method transmits vibrations associated with the sounds and rhythms of speech through the sensory nervous system other than the auditory channels. Special electronic equipment is employed to transmit within whatever hearing range is accessible to a child, along with a system of teaching body tension and relaxation in synchrony with speech.

Summary/Manual Methods

To use any symbol system successfully for communication it would have to include that which would be accessible to the very young hearing impaired child so that s/he can manipulate the symbols to abstract his/her own meanings and generate language rules. The child would progress naturally from the simplest to the more complex forms and the system must be consistently used both at school and at home.

Oral/Aural Method (Definition)

The oral method as defined at the Clarke School for the Deaf (Northampton, Mass.) is the use of speech and speechreading in communication at all times without any use of manual communication. The method advocates the ability of the hearing impaired to communicate with the world around them. The oral approach utilizes the incomplete information on the lips and as much auditory information as the student is capable of receiving, and emphasizes speech and speechreading. Reading and writing are the primary means of teaching language.

There are three techniques for oral training:

1. "Auditory stimulation" is the most useful for young children in pre-school situations or at home. Between six and twelve months of age the child is fitted with a hearing aid. S/he is exposed to sounds and spoken language at every opportunity approximately what happens to normal hearing children when they are learning to speak, but stimulation must be carried out more deliberately and intensely with the hearing impaired. A parent education pre-school program such as the John Tracy Clinic, Los Angeles and the Bill Wilkerson Clinic in Nashville, Tennessee offer free correspondence and courses that cover this approach and have on-campus facilities for utilization of this method.
2. "Multi-sensory/syllable-unit method" uses sight and touch to teach speech. The child watches the teacher make the sound, and also feels it being made by putting his hand on his/her face. Then the student tries to reproduce the sound by making the same vibrations and breath effects. Syllables are the basic units taught.

3. "Language associated-element method" teaches the student the smallest components of speech - phonemes. Then s/he learns to associate these with language.

The parents and the teachers begin to make optimum use of the student's ability to understand speech in order to use it. The parents and teachers begin a special auditory training program to develop any residual hearing which the student may have. They also employ methods designed to develop speech that is as normal as possible. Speech is presented in whole words, phrases and sentences that express ideas. Parents and teachers talk to the student about everything that is a part of his daily life. The student learns to watch speakers for cues and use voice in a certain way, thereby obtaining a more satisfying and prompt response.

Transparency #11   Methods of Teaching Language

Purpose: The purpose of this transparency is to depict the basic methods of teaching language to the hearing impaired student in schools for the deaf.

The language element must be given priority over all other academic or non-academic areas in the training of the hearing impaired. Language is the core of the curriculum in all subjects, and is emphasized in preschool programs. Creative activities are a means of expressing a language experience. Speechreading is the tool for receiving spoken language. Sense training (as a means of expression and of developing the ability to concentrate, observe, and think) is a language experience. Auditory training is a procedure for the development of better voice quality, and a broader concept of spoken language. It develops a consciousness of language in the environment. Proficiency in reading is based on language experiences, and reading itself is a language experience. Language and every aspect of the child's development are inter-related. Educators of the deaf have devised special techniques appropriate for teaching language to the hearing impaired. These special methods are introduced in early preschool and continued until formal education is completed.

Without adequate reading proficiency, any child is handicapped in communication, as well as in acquiring knowledge in any field. But, before a child can read, s/he must have an understanding of the language. When the hearing child learns to read, it is taken for granted that s/he is familiar with the language. However, as the hearing impaired child learns to read, the primary objective is language acquisition. The most widely used methods of teaching language are described below:

The Fitzgerald Key

The Fitzgerald Key is the most commonly used method of teaching language in schools for the deaf. This method furnishes visual patterns for correct word order. It also provides a set of symbols that make it possible to clarify constructions. Children are taught to "plug into" the key. Before the key is used, the students classify the words they have acquired through vocabulary study in a chart.

1. Who
2. What
3. How many
4. Where
5. Adjectives and verbs (are grouped under their respective symbols)

The key is developed with the children as new language principles are introduced. Eventually word order and modifying elements of sentences are learned through the use of this visual aid.

The symbols that are commonly used within the chart are:

═ verb
— noun
┬ pronoun
⌐¬ conjunction
┌─┐ adjective
⇉ infinitive
⇇ present participle

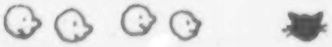
Who	=	How many	What color	What
Linda	has	a	blue	dress.
Jerry	likes			candy.

The Natural Method

The natural method (Groht) is based on the development of natural language form, the situation itself, direct experience and usage. The student is expected to want to talk, to like to talk, and to try to talk. Speechreading is started at once in the home and in the preschool. It is felt that it is never too early in the child's life to begin speechreading skills. The teacher creates a stimulus environment which involves the child with his surroundings. The language which is taught emerges from and is dictated by the activity. The young hearing impaired student should think of experiences in terms of language and should be able, with the help of the teacher, to tell the class what was done that was funny, or what s/he ate for breakfast, or found, bought, or discovered. As a group the students can also construct a news story, or an experience story.

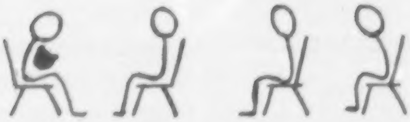
As the student tells the experience the teacher or the student writes it on the blackboard, overhead projector, or on an experience chart often with the addition of illustrations. The very young class starts by recognizing the names and a few other words. Eventually the whole sentence will be understood. The objective being that the children will be reading what they already know. This "class news" is easily understood because the students were directly involved in the experience. Group items, as in the examples below, can quickly be individualized and turned into a very personal story for each child.

Four children brought a black cat to our room.



Suzie gave it milk.

We all held it.



We liked it.

Linguistic Approaches

The term linguistics refers to the scientific study of language. Like most fields of study, linguistics can be divided into many areas. Educators of the hearing impaired are interested in logical generalizations, complete and self-consistent explanations for the way language operates. In principle, the language program aims to teach the rules of transformational grammar. Whenever possible the child is allowed to make his/her own discoveries and once the discoveries are made, intensive drill will be a continuous reinforcement through writing experiences. The scope and sequence of the language which children normally learn from ages 2 to 7 should be the basic part of language programming for the hearing impaired. This is a step by step process. Once the student has mastered enough concepts, s/he is free to turn his attention to analyzing the information provided by each sentence pattern.

School for the Deaf Curricula

Many schools such as the Rhode Island School for the Deaf, Tennessee School for the Deaf, P.S. 47 in New York and several others have designed curricula based on structural and transformational linguisitcs.

After the child has considerable vocabulary exposure in the wide context of ideas and concepts, s/he is presented with different patterns of sentence constructions.

Examples of patterns:

Subject followed by an intransitive verb.

Sheila fell.

The girl cried.

Dogs bark.

Expanded sentences using where and when.

We went to the store.

It rained yesterday.

The boys ran in the gym last night.

MIVR (Mediated Interaction Visual Response)

Mediated interaction visual response system (MIVR) or, its more complete counterpart, the optimum interaction learning laboratory (OILL), permits and encourages an entirely new teaching and learning procedure based on good current learning theory, programmed learning concepts behavioral objectives, contingency management and performance based education.

The MIVR consists of a room (or laboratory) of individual overhead projectors in which a group of up to twelve students are prompted to actively respond in a simultaneous manner to a series of teacher presentations. The teacher may observe writing, spelling, solving, constructing, drawing, selecting, etc. as the students write on their own overhead projectors and focus the images on the walls behind them. The MIVR offers the teacher at least one overhead projector and other hardware such as filmstrip projector, record player or tape recorder. In some cases it is equipped with an auditory system, red and green student signal lights, student help buttons and digital counters.

In many ways the MIVR system capitalizes on the characterisitcs of programmed learning with its emphasis on breaking teaching down into many brief steps and exposing each step for student perceptions. It also provides a situation requiring observable student responses. The student and the teacher have immediate knowledge of success or failure on any set task. Immediate reinforcement techniques are built in and remediation in any area can be quickly supplied. When skill in using the laboratory is developed, nearly every behavior of almost every student can be positively reinforced.

Transparency #12 Speech Production of the Deaf

Purpose: The purpose of this transparency is to describe the difficulties in teaching the hearing impaired child to speak intelligibly.

Introduction

Intelligible speech production by hearing impaired students is a formidable task. In most cases the articulatory mechanisms of the hearing impaired student are intact and functioning. However, when the child's hearing is impaired, other means must be implemented so that s/he can imitate the sounds s/he cannot hear. Consequently, speech development of the hearing impaired does not precisely follow the maturational process of normal hearing children.

Speech Problems

The speech of the hearing impaired has been studied in depth. Hudgins and Numbers (1942) have investigated the intelligibility of speech of the hearing impaired and have described some general and crucial errors in the production of "deaf speech".

Vowels

Typical errors in the production of vowels included:

1. Substitution of one vowel for another
2. Nasal quality of vowels
3. Production of pure vowels as dipthongs

Consondnts

Numerous consonant errors were classified:

1. The failure to distinguish between voiced and unvoiced

sounds. (p/b, t/d, k/g)

2. The substitution of one sound for another: sh for s, and w for r.
3. Inappropriate nasalization and denasalization.
4. The misarticulation of consonant blends: (ks, br, fl)
5. The omission of consonants at the end of a word: (as daw for dog, and coa for coat.)
6. The omission of consonants at the beginning of a syllable.

Phrasing

Speech is apt to be very slow and labored so that it loses its characteristic pattern.

Rhythm

Incorrect rhythm in speech results in distortion of individual words and the context of the entire sentence.

Breathing

The hearing impaired child often has irregular breathing patterns and therefore consumes considerably more breath while speaking. The expenditure of an excessive amount of breath on single sounds tends to reduce the length of phrases and requires additional respiration.

Pitch and Loudness

The hearing impaired student must learn to monitor vocal quality and be able to control the pitch and loudness of voice. S/he must realize that peculiar inflectional patterns are distracting. A voice which is monotonous, too quiet, harsh or breathy is typical of "deaf speech".

Methods

There are several methods used in teaching speech to the hearing impaired.

1. Phonetic-Kinesthetic

   The speech teacher relies upon phonetic placement and kinesthetic feedback.

2. Technical aids

   Visual reinforcements of articulations are made through the use of computers, oscilloscopes or other patterning devices.

3. Dictionary study

   This method utilizes the diacritical markings to emphasize stress and word patterning.

Transparency # 13 Aural Rehabilitation

Purpose: The purpose of this transparency is to depict aural rehabilitation problems. The hearing impaired require special consideration regarding maximal use of residual hearing.

Definition

This concept refers to technical or therapeutic techniques which are designed to enhance the use of residual hearing for hearing impaired persons. The literature confirms that totally unusable hearing is a rather rare phenomenon. Advances in the design of hearing aids and the design of auditory training units have encouraged professionals who work with severely hearing impaired children to develop techniques which could maximize the use of residual and/or impaired auditory processes. Schools for the deaf, day schools or day programs typically include a core of aural rehabilitation programs within the structure of the services available to hearing impaired children. Typically these services consist of: auditory training, speechreading, speech therapy and technological alterations of the learning environment.

Auditory Training

Personal hearing aids have fidelity limitations due to size and cost. Desk model hearing aids (auditory training units) can provide additional intensity and frequency response patterns which are not replicated in small personal hearing aids. Many commercial units are specifically designed for classroom use. These units or combinations of units permit the hearing impaired child to receive the speech (signal) of the teacher and/or classmates at better frequency and intensity levels than do individual hearing aids. Schools for the deaf typically provide this method of instructional amplification for their students. The individual child receives academic instruction while "attached" (earphones, earplugs) to the master unit within the classroom. The teacher wears a microphone which provides maximum efficiency and reduces distortion and external noise. Most schools for the deaf provide such equipment for classrooms. Hearing impaired children are therefore provided with the most advanced technological equipment through which they can receive speech, instead of relying upon individual hearing aids. To some hearing impaired children, a form of amplification is essential.

Speechreading

Although language is redundant and visual, the vowel and consonant formation of English is relatively difficult to perceive without auditory cues. Only 14-26% of the sounds of English are clearly visual or discernible through vision alone. These figures fluctuate since individual speakers vary in their accuracy and discrete production of sounds and word patterns. The hearing impaired child is typically aided in learning to read speech patterns visually (words and thoughts) by instruction in attending to the lip movements of the speaker. Several instructional methods of teaching speech reading have developed. At present, a synthetic rather than an analytic approach is favored in the teaching of speechreading. The hearing impaired child is taught to interpret lip movements, gestures, body movements, facial cues, etc. visually. Through practice and context, s/he can determine what is being said. The research on the ability of hearing impaired children to speechread effectively is rather unspecific, i.e. it is difficult to determine which child will display skill in speechreading ability and which child will have great difficulty in developing this skill. Speech therapists and hearing clinicians can provide assistance to the child who is learning to develop his/her speechreading skills.

The classroom teacher should be aware of imposing communication limitations when dependence is solely on speechreading techniques. Visual light, individual speech production differences, consonant confusions, contextual cues, distance, size of group involvement and numerous other factors effect a child's ability to speechread effectively. Total dependence upon speechreading ability produces strain visually and physically for the child. Fatigue and attending difficulties are not unusual psycho-physiological results of extended reliance on speechreading for information processing. Several factors can contribute to providing the child with a more acceptable climate in which speechreading techniques can be employed:

1. Distance (4-6 feet from the speaker)
2. Clear but unaccented articulation
3. Good visual light on the face of the speaker
4. Natural gestures and expression can be an asset to the child who is dependent upon speechreading.

To be sure, speechreading clearly has limitations for the classroom setting where the teacher is mobile, conversation is not always a one-to-one relationship and lighting may be less than ideal. Speechreading is most effective in a controlled, structured environment.

Speech Therapy

A speech therapist who is specially trained in hearing impairment can assist the hearing impaired child in both speech production and speech reception. Various methods are used by different schools and therapists to enhance the hearing impaired child's understanding of aural rehabilitation. The speech therapist may provide special equipment for use in auditory training, speechreading and language development. Individual schools or programs stress different components of aural rehabilitation for the hearing impaired. The speech therapist in a program designed specifically for the hearing impaired typically relates speech production and reception to a total perspective of language facility.

Technological Alterations

Schools for the deaf or other programs designed specifically for the hearing impaired provide a variety of technological devices which can enhance and maximize residual hearing. In addition to training units, induction loop systems, F.M. amplifiers and microphones, many schools provide audio-visual technology (hardware) which reduces extraneous noise, amplifies the visual elements of the teaching curriculum and generally enables the hearing impaired child to participate in an educational environment which does not rely on the child being "plugged in" to a desk model unit. These advances have altered the climate of classrooms for the hearing impaired and the commercially available units can provide flexibility in scheduling and class atmosphere. A variety of equipment is available which varies in both cost and design. Individual school districts faced with the prospect of adapting their physical plant to the hearing impaired child should investigate the numbers of systems currently available. The induction loop, which is currently one of the most widely used systems limits the teaching environment to a regular classroom. The new FM units bring added "shortwave" band type mobility and flexibility beyond the constraints of the looped classroom.

Transparency #14 Socialization Curriculum

Purpose: The purpose of this transparency is to depict some of the important social behaviors that are taught by direct experience to the hearing impaired student.

Rationale for Socialization Curriculum

Parents and the residential schools for the deaf have designed programs to deal specifically with the personal and social adjustments of hearing impaired students. Students living in residential settings are often unable to return home every weekend due to long travel distances. It therefore becomes necessary for the schools to help the students bridge the gaps in social and behavioral maturity. Parents and teacher participation in the student's total development has reduced many of the differences that have set the hearing impaired child apart. Interpersonal adjustment of the hearing impaired often depends upon adequate means of communicating and understanding the abstract concepts as love, friendship, hate, dislike, sportsmanship and patriotism. In order for the student to learn that there is more than one answer to some problems, the schools share in helping the student develop a social behavioral pattern. Students need stimulating material to teach them to use their own active minds to see a situation through, and to think for themselves. The student must be lead from "taking turns" at age four, into "sportsmanship" at fourteen. He must be allowed to go see the school nurse alone at age six, buy a bus ticket and travel alone at nine or ten, in order to feel secure traveling in Europe at eighteen. The teacher must not isolate the child from reality. S/he must be given every tool to function in society.

Specific Techniques

Teachers must be alert to finding ways of teaching the relations between persons and events. Frequently the event as seen is not the whole picture and the teacher must keep in mind constantly that usually the student sees only the event. An exciting incident on television could prove disastrous when the student tries it the next day in school.

Abstract concepts place barriers to understanding certain religious and moral situations. The student must be taught that although "lying" is wrong, there are times when kindness outweighs truthfulness. "You look old," most often is a statement that should be left unsaid. Honesty or perhaps bluntness can be most unkind and is one fragment of the student's training that is important. The student must not only know right from wrong, but how to analyze the inevitable choice between two wrongs and to choose the lesser.

Independence

To prepare the student for independence the educator starts early in allowing the student to make decisions for himself. If it looks like rain, will the student decide to take his/her umbrella to lunch or take a chance on having to sit in soggy clothes for the rest of the day. What will be bought at the grocery/variety store with the money that s/he may have earned through a behavioral modification contract during the week? Will it be a banana, candy, cat food, or a small toy?

Social Skills

To place things in their proper perspective, to tell a funny story, to become aware and to respond pleasantly when the joke is on you; all fall under the category of good humor. There are the occasions when the teacher sets up an environment where appropriate responses can be taught just as the language that is needed for certain occasions is taught. Greetings, responses to greetings, expressions of interest in what others are saying, "ice breakers" at parties, how to be a gracious house guest, what to say when given a prize or gift, what to say to the clerk, the bus driver, paperboy, school nurse, librarian or any of the people with whom the student comes into contact are just as important to teach as is humility through self confidence.

Manners

Even as early as preschool, a heavy emphasis is placed on good table manners. The correct use of the napkin, fork, knife and straw are almost as important in his/her mealtime experience as being able to match the foods to a picture chart or to say the names of the foods. Good manners are a part of the nursery school curriculum just as ordering from a menu, quick tabulation of prices to see if the pocketbook will support the stomach and proper tipping is a part of the adolescent life.

Responsibility

Sharing and sharing of responsibilities is another area that starts early in the student's life. Most classrooms have plants and animals that need lots of care and attention. Love and care of plant and animal life is a natural way to teach sharing. The nursery school child may hold the kitten too tightly around the neck. The child will probably not be able to hear the kitten's cry. The older students are often closely supervised in an activity to teach sharing responsibilities in either creating or maintaining a fair student government. Elections are held, campaign speeches are made, buttons passed out, literature circulated and votes cast. All of this is done to prepare the young adult for the first day at the polls. The student is aware of the personal responsibility of citizenship and also learns the mechanics of marking the ballot or pulling the correct lever.

Suggestions for the Trainer

The following questions may be discussed in context of each individual school situation. A major objective is to provide a workshop atmosphere that will generate problem solving discussion.

1. How can the classroom teacher lend support to a social and behavioral curriculum?
    a) How can the classroom teacher help the student in decision making?
    b) How can the classroom teacher help the student with social skills?
2. Why is there a philosophical dichotomy between manual communication and oral communication?
3. How can the classroom teacher most effectively utilize the speech therapist concerning specific speech problems of the hearing impaired student?
4. Can comparisons be made between the methods for teaching language arts in schools for the deaf and our language arts curriculum?
5. Develop a check list for the receiving teacher to take when s/he visits the school for the hearing impaired.
6. What changes can be expected from the hearing impaired student who has attended a residential setting?

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Introduction

The successful adjustment of a hearing impaired child to a mainstreamed classroom is dependent on many factors. One important factor is the number of resources available within the school. The staff should include competent, qualified people who can provide for the specialized needs of hearing impaired children. The school should have the necessary facilities to accommodate these children and materials to provide adequate instruction.

Another factor influencing the success of a hearing impaired child in the new environment is the flexibility of the school curriculum. Language deficiencies attributed to hearing impairment will necessitate an individualized approach to instruction. Alternative levels of integration should exist to permit individualization for each hearing impaired child. In addition to special academic requirements, there will be a need to individualize goals for effective learning and social development.

The attitudes of relevant people are a third influential factor. Some degree of enthusiasm and commitment should be felt by the teacher who is to receive a hearing impaired child. Likewise, it is helpful if the child's parents feel enthusiastic about the project, show a continuous interest in the progress of their child, and support the school's effort. The people of the community, too, can have an impact on the program's success by offering assistance and support.

The task of providing an education which meets the special needs of hearing impaired children is a difficult challenge. However, if these factors are addressed, i.e., adequate resources are available, the school curriculum and staff are flexible and can provide alternative programs, and if the attitudes of participants are positive, the chances of success are greatly enhanced.

This section has been written with the classroom teacher in mind. Its purpose is to offer assistance and specific suggestions in the following areas:

1. Ways to develop responsibility
2. Ways to foster communication between hearing impaired and normal hearing children
3. Ways to understand the hearing impaired child's communication
4. The teacher's role in respect to ancillary personnel
5. General curriculum considerations
6. Specific considerations for the language arts and math curriculum
7. The use of media
8. The classroom's physical environment
9. The classroom's educational environment

Transparency #15 The Teacher's Role

Purpose: The purpose of this transparency is to depict the importance of the teacher's role in the hearing impaired child's successful adjustment to a new learning environment.

The teacher is an important factor in the successful adjustment of a hearing impaired child to a mainstreamed classroom. His/her patience and understanding should provide a comfortable, secure learning environment. S/he should become aware of the child's individual needs, then make the necessary modifications in the classroom and provide additional help and support. It is the attitude and behavior of the teacher which sets the standard for the other children and adults.

Overlay #1 Developing Responsibility

Purpose: The purpose of this transparency is to give the teacher specific suggestions which help to develop a sense of responsibility in hearing impaired children.

Children with hearing impairments can be encouraged to participate responsibly and need not be overprotected. Here are some specific ways the teacher can work toward this goal:

1. Make sure the hearing impaired child is looking at you before you begin speaking.
2. Ask questions periodically to see that the hearing impaired child is comprehending what you are saying.
3. Provide praise and approval for student responses as they occur. Do not ignore any attempt to communicate by the hearing impaired child.
4. Encourage the hearing impaired child to ask questions when s/he does not understand. You may need to teach the child how to ask questions.
5. Assign a buddy to help the hearing impaired child by interpreting directions, answering questions and taking notes.
6. Encourage good study habits at home and in school.
7. Encourage the hearing impaired child to participate in class discussions.
8. Encourage good use of oral and written language.

9. Individualize assignments so that they can be successfully completed by the child. The use of contracts, (agreements made between the teacher and child as to what the child will do to learn) is a way of individualizing assignments without causing the child to feel "special". The child should be held accountable for assignments. The use of contracts helps to instill a sense of commitment in the child.
10. Expect the hearing impaired child to obey the rules which govern the classroom. Giving preferential treatment to the child would cause resentment by peers and would not prepare the child for situations outside of school.
11. Encourage the child to pursue interests through extra-curricular activities.

Overlay #2 Encouraging Interaction Between Hearing Impaired and Other Children

Purpose: The purpose of this transparency is to give the teacher specific guidelines for developing and encouraging interaction between hearing impaired children and other children.

The teacher cannot assume that the hearing impaired child is going to seek out ways of interacting with other children, nor that other children are going to make successful attempts at including the hearing impaired child in their activities and relationships. To establish friendships will require repeated efforts on the part of both the hearing impaired child and the other children. The following suggestions should assist the teacher in encouraging natural, comfortable relationships:

1. Provide learning activities in the classroom which require group interaction. Small group work is facilitated through flexible seating arrangements made by moving desks, using chairs, or sitting around tables.
2. Encourage the hearing impaired child to participate in extracurricular activities, especially those which are attractive to children such as baseball, drama, music, etc. The interest range of hearing impaired children is the same as other children's.
3. Help build self-confidence in the hearing impaired child by reinforcing the successful attempts s/he makes in activities. Help build a positive self-concept by recognizing those activities s/he does well. A child who feels good about himself/herself is more apt to attempt relating to others.

4. Observe the hearing impaired child's interrelationships in both formal and informal settings. If the hearing impaired child is having difficulties, diagnose the problem and develop a strategy to solve it. Selecting a buddy to act as an interpreter may aid communication. Structuring informal play situations may help in initiating relationships. Severely hearing impaired children often lack social skills which other children learn incidently. You may wish to make the other children aware of this and to ask their assistance in helping the hearing impaired child learn these skills. You may need to alter the expectations and attitudes of the other children by making them aware of people with handicaps who have excelled. (Beethoven, Helen Keller, etc.) Remember, your expectations and attitudes will influence directly those of other children and of other adults.
5. Review instructions when playing games to insure that the hearing impaired child will have a positive experience.

Overlay #3 Understanding Hearing Impaired Children

Purpose: The purpose of this transparency is to help the teacher to understand what the hearing impaired child is communicating.

The teacher may have difficulty understanding the speech of a hearing impaired child. It is important that the teacher tell the hearing impaired child when s/he does not understand and that s/he persist in discovering what is being communicated. The following list is a strategy to aid the teacher:

1. First, ask the hearing impaired child to repeat what s/he said. Watch the child's lips and facial expression for clues.
2. Use an interpreter-tutor when available to assist in translating communications.
3. Ask the other children to help you.
4. If necessary, ask the hearing impaired child to write the message to you.

Overlay #4 Relating Information to Ancillary Personnel

Purpose: The purpose of this transparency is to inform the teacher of his/her role in relation to ancillary personnel.

The teacher may be responsible for relating pertinent information to the ancillary personnel who come in contact with the hearing impaired child. These people might include supportive personnel (i.e. speech clinicians, interpreter, itinerant teachers, psychologists, counselors, school nurse), school personnel (i.e. bus driver, custodian, cafeteria staff), crossing guards, teacher aides, and teacher trainees. A small conference before meeting the hearing impaired child will aid these personnel in creating a comfortable environment and in alleviating any embarrassing situations. The following suggestions will clarify the teacher's role in relation to the specialized teacher and school psychologist.

1. The specialized teacher will be the person with whom the classroom teacher will maintain closest contact. His/her role will be to provide instruction in special skills such as speechreading, auditory training and speech therapy. So that this specialized teacher can coordinate his/her program with that of the classroom teacher, the classroom teacher should communicate to him/her what is being learned in the classroom. A systematic way of insuring that this be done with regularity is to submit to the specialized teacher a weekly lesson plan which includes key vocabulary words, concepts, and skills to be learned. This enables the specialized

teacher to reinforce what the classroom teacher is teaching and to supplement the experiences of the hearing impaired child in the areas to be studied. Further, the specialized teacher should be provided with a report on the activities used to accomplish given objectives each week and a report of the student's performance. The classroom teacher and the specialized teacher should invite each other to observe the hearing impaired child in the classroom and the resource room setting.

2. The school psychologist will be responsible for administering standardized tests and interpreting test scores. This person should be made aware of hearing impaired children so that appropriate adjustments can be made. These may include: an individualized testing situation, a non-verbal test instrument, and the use of an interpreter.

Transparency #16 Curriculum Considerations

Purpose: The purpose of this transparency is to alert the teacher to the curriculum needs of hearing impaired children and to suggest ways to accommodate these needs within the existing curriculum.

Many needs of hearing impaired children are essentially the same as those of normal hearing children. However, some needs will be unique to hearing impaired children. The following list of recommendations may be applied to all curriculum areas:

Expectations

1. The teacher should become aware of the hearing impaired child's potentials. Given this information, learning activities should be designed to challenge and maintain interest, yet not frustrate or defeat the child. A level of expectation should develop from this information and should not be lowered because of the additional effort required by both the teacher and hearing impaired child to reach this level.

Curriculum Goals and Designs

2. The approach to learning should be consistent and systematic. That is, what needs to be learned should be defined clearly using measurable objectives which direct the child toward a predetermined goal. There should be a core philosophy, methodology and curriculum around which learning revolves. Before instruction the teacher should assess what needs to be learned. The next step is to set goals, state objectives and design learning activities. For hear-

ing impaired children, these activities may need to be broken down into finite, very small tasks. Each learning task, once mastered, should follow in a logical, sequential order.

Learning Activities

3. Learning activities should actively engage the hearing impaired child. A good question for the teacher to ask himself/herself is "What should the child do to demonstrate learning?" Some examples of activities which involve student activity are drawing, constructing. writing, listening, viewing, designing, comparing, telling, and creating.

Feedback Mechanisms

4. The teacher should provide regular feedback reinforcement to the hearing impaired child. Words and gestures of encouragement and praise are essential to the hearing impaired child who is often confused and unsure of how others perceive him/her. Offer suggestions to the hearing impaired child where improvement is desired and then give feedback in terms of progress made.

Thinking Skills

5. The teacher should design learning activities that develop higher level thinking skills.

   PROJECT LIFE has identified the following skills as being important:

   1. making associations
   2. making comparisons and contrasts
   3. making analogies
   4. arranging in logical sequence
   5. the ability to classify and make generalizations
   6. detecting absurdities

7. matching
8. making discriminations
9. groupings
10. making inferences
11. drawing conclusions
12. extracting the meaning of a new word from context
13. reasoning
14. making a judgment
15. predicting the outcome of a given event
16. meaningful completion of pictures and situations

Reinforcement Techniques

6. Reinforce new skills, vocabulary and concepts until they become internalized. Much of what is learned incidentally by other children through verbal remarks must be taught to hearing impaired children. Provisions for teaching and reinforcing this information must be deliberately structured into the child's learning.

Multi-Sensory Approaches

7. Employ a multi-sensory approach to learning. Utilize all senses through verbal, auditory, visual and tactile experiences.

Inter-Relationships in Learning

8. Interrelate skills, concepts, experiences and vocabulary between various subjects. Their repeated use in varying contexts provides reinforcement and helps the hearing impaired child sense the interrelation of all learning.

Creativity

9. Approach learning with creativity. Although instruction for the hearing impaired child will require many reinforcement activities, it should be creative so as to motivate the child. Learning activities should encourage and develop the child's creativity.

Student Choices

10. Provide the hearing impaired child with opportunities to make choices in respect to his/her learning. Allow the child to pursue interests and to initiate projects or activities. One way of giving the hearing impaired child opportunities to make choices and develop interests is through learning centers. Another way to give both teacher and student input into learning is through the use of contracts. Making choices and following through on commitments made in regard to these choices help develop independence and responsibility in hearing impaired children.

Evaluation Processes

11. Evaluation of the hearing impaired child's adjustment to the mainstreamed classroom should be an ongoing process. The child's parents should be contacted early in the year so that goals for academic achievement and social growth can be established together. As a general rule, the number of parent-teacher conferences for hearing impaired children should be twice the number of conferences for other children. Regular meetings for goal setting and evaluation should occur between the teacher and supportive personnel. If possible, the teacher should try to visit the child in the special school for hearing impaired children before the child comes

to the mainstreamed class. If this is not possible, it may be helpful for the teacher to either contact the child's former teacher to learn information about the child's earlier progress, or to visit a special school for the hearing impaired to help determine goals and measures of attainment.

Transparency #17 Language Arts-Mathematics Curricula

Purpose: The purpose of this transparency is to offer specific suggestions for the language arts curriculum for hearing impaired children who are fully integrated. The following four areas will be discussed; each to be represented by an overlay.

a. oral-receptive language (listening)
b. oral-expressive language (speaking)
c. written-receptive language (reading)
d. written-expressive language (writing).

Note: Program manuals with transparency masters should note overlays #1-5 are included on transparency master #17. They should be revealed individually according to the manual's progression.

Overlay #1 Oral-Receptive (Listening)

Purpose: This overlay is to be used when giving the teacher guidelines for developing listening skills through speechreading and auditory training.

Hearing impaired children use both auditory and visual cues in listening. The following suggestions should aid the teacher in helping hearing impaired children receive auditory communication.

1. The hearing impaired child should sit four to six feet from where the teacher usually speaks. The child's back should be toward the windows so as not to be looking directly into the light. The child should have a "roving" seat so as to be able to face other students in class discussion. If a hearing aid is used, the aid ought to be directed toward the speaker. If there is frequent change of speaker, a seat at the side of the room will allow the child to do profile speechreading. When a microphone is used in large groups, reserve a front row seat to the side so that the lips of the speaker are visible.
2. The hearing impaired child must be looking at you before you begin speaking. Agree upon some standard signal for getting the child's attention. Having someone near the child call his/her name is preferable to tapping or poking which can become irritating or loud signals which can be startling. In a class discussion use gestures to alert the child to the location of the speakers before each person begins to speak.
3. When speaking, the teacher should take a position so that his/her face is well lighted; do not stand in front of windows or bright lights. Avoid obstructing the child's view of your lips

with your hands or a book. Stand in one position; do not pace while speaking. Always face the class when speaking. If you are using the chalkboard, wait until you've turned toward the class before beginning to talk.

4. When speaking, try to establish eye contact as often as possible. Use facial cues and natural gestures that facilitate understanding but do not detract attention from your mouth. Sometimes hearing impaired children have difficulty discriminating between questions and statements. A facial cue or tracing a question mark in the air may help clarify your communication.
5. Speak slowly and enunciate clearly. Talk naturally, without exaggerating lip movements.
6. Many words and sounds "look" alike. If the child is confused by a word, use it in a familiar context.
7. Good speechreaders look for thoughts not just single words. Therefore, if a statement is not understood, rephrase it using new cues until the thought is comprehended by the child. You may need to simplify the statement by breaking it into smaller units.

Examples:

(Direction) "As each of you completes recording in your logbook, you may move to a learning center of your choice."

(Rephrased direction) "Johnny, first write in your logbook. Then you may choose a learning center activity."

(Question) "How was the economic situation of the country reflected in the personalities of the characters?"

(Rephrased question) "How were Jody and his father affected by the Depression?" "What kind of people were they because of it?" "How did the Depression change their personalities?"

8. If the hearing impaired child is having difficulty comprehending language, address him/her using short sentences with simpler words and phrases. Gradually work to increase the ability of the hearing impaired child to understand more complex language structures.
9. Before a lesson, write new vocabulary on the board. Make sure each new word is understood by using visual clues or using it in context.
10. Reinforce new words and language structure through repetition.
11. An outline of the lesson given to the hearing impaired child to survey in advance or a simple outline on the board helps the hearing impaired child to follow the presentation.
12. If notes are to be taken, appoint a notetaker; the hearing impaired child will need his/her eyes to speechread.
13. The hearing impaired child may not be able to keep up in a conversation when there is a rapid change of subject. In group discussion you might aid the child's understanding by using verbal connectives such as, "Now we will go on to step 2." Monitor the pace of communication so that it does not become too rapid for the child to follow.
14. Alternate listening activities with other activities requiring less attention. Hearing impaired children can become easily fatigued because listening requires both their auditory and visual attention.

Overlay #2 - Oral-Expressive (Speaking)

Purpose: This overlay is to be used when giving the teacher guidelines for helping hearing impaired children to use effective oral-expressive communication.

The speech difficulties of a hearing impaired child directly relate to the type and degree of hearing impairment. Sounds which are distorted such as s, f, b, d, m, n, etc. are often distorted in their speech. The speech specialist will work regularly with the child to attain as near normal speech as possible. The classroom teacher can provide the following assistance in working toward this goal:

1. Establish a comfortable, accepting environment. Offer encouragement and praise when appropriate to build the hearing impaired child's self-confidence.
2. Encourage the hearing impaired child to participate in oral recitations and class discussions by directing questions to him/her.
3. Attempts to make speech correction can cause embarrassment to a hearing impaired child. Note words needing correction and bring them to the attention of the speech specialist.
4. Hearing impaired children appreciate help in monitoring the volume of their voices. The teacher and other children can help by politely telling the child when s/he is speaking too loudly or softly. Remember to acknowledge the child when s/he projects well, using the appropriate volume.
5. Give the hearing impaired child opportunities to prepare in advance for a discussion by providing supplementary materials to study.

6. Listen with intent when the hearing impaired child speaks. At times this may be difficult, especially when speech is greatly distorted. However, it is important for the child to sense an interest in the listener to make continual attempts at speaking.
7. Encourage the child to participate in activities which utilize speech skills (Examples: drama, taping, role playing, demonstrating, reciting, interviewing, oral reading, oral reporting, etc.)
8. Teach the hearing impaired child to use the dictionary for word pronounciation. (A game utilizing unfamiliar words and the pronounciation key could be used with a group of children.)
9. Expect the hearing impaired child to speak in complete sentences. This practice reinforces language patterns.

Overlay #3 Written-Receptive (Reading)

Purpose: This overlay is to be used when giving the teacher specific guidelines for helping the hearing impaired child to develop reading skills.

Reading is considered to be one of the most important skills learned by hearing impaired children because of its potential to provide continued learning. It is the avenue by which the hearing impaired adult receives most of his/her information about the world. Before being successful at reading, however, the child must have an understanding of language structure. The vocabulary and language structures learned informally through conversation by other children may be foreign to the hearing impaired child. Facts, concepts, or experiences essential to understanding a reading selection may be unfamiliar. The materials and methods employed by the teacher must compensate for these deficiencies and instill in the child a desire to read and to improve reading skills. The following list of suggestions can help the teacher work toward this goal:

1. Before presenting a reading lesson, the teacher should know what facts, concepts and skills are to be developed and what the lesson assumes the reader to know before instruction. The teacher then should assess the hearing impaired child's ability to succeed in the lesson. Additional instruction or alterations in the lesson may need to be provided.
2. Before presenting reading material, the teacher should check to see if the hearing impaired child's experience background is adequate to comprehend or enjoy the material. This is important because hearing impaired children are deprived of information ordinarily learned auditorily. If experience is lacking, provide

enrichment through visual aids and other reading sources.

3. An intermediate reading lesson for hearing impaired children should be approached in a similar manner to how a primary reading lesson is approached. The child should be prepared before encountering new vocabulary and language structures. Idiomatic language and slang expression can be especially confusing if not taught. A helpful reference is A Dictionary of Idioms for the Deaf, compiled and edited by Maxine T. Boatner. Generally, do not depend upon the teacher's manual to point out adequately all that is important for the hearing impaired child. It is recommended that the teacher carefully read the material with the hearing impaired child in mind.
4. When discussing material, check to see that the hearing impaired child has sufficient language skills to understand the questions. You may need to rephrase questions into simpler language. Lessons might be developed to teach the language structure of questions.
5. Caution should be taken when aiding the hearing impaired child's comprehension by over-reducing the text to simplified language, pictures, or gestures. Although the child may comprehend the idea, his/her understanding may be largely non-verbal. Determine which language structures are causing difficulty and structure lessons so that they can be read successfully in subsequent readings.
6. Since the hearing impaired child's approach to reading will be primarily non-phonetic, s/he will need a strategy for encountering new vocabulary independently. Strong emphasis should be placed on skills in structural analysis of words. A good knowledge of suffixes, prefixes and inflectional endings will facilitate

pronunciation, meaning, and usage. Knowledge of Latin and Greek derivatives will strengthen the child's vocabulary power.

7. Hearing impaired children often have difficulty with the text in oral reading situations. It is helpful to have someone else look on with the hearing impaired child and use a piece of paper to guide down the page as it's being read. Remind the other children not to cover their faces with the book when reading orally.

8. Motivation is an important factor in the child's desire to read. Provide a purpose for reading to stimulate interest. Select materials which are interesting, attractive and colorful. Don't forget to give abundant positive feedback; a child who perceives himself/herself as a good reader enjoys reading.

Overlay #4 Written-Expressive (Writing)

Purpose: This overlay is to be used when giving the teacher suggestions for developing competency in writing skills for hearing impaired children.

The writing level of a hearing impaired child generally correlates to his/her development in the other language arts. What the child understands about language in one area should transfer to other areas. For example, if the child can speak in complete sentences it is probable s/he can write in complete sentences. If the child is successful in reading, his/her chances of being successful in writing are increased. Like other children, however, success in one area does not guarantee success in writing. The teacher can assume the child will need a good understanding of language before s/he can become a good fluent writer. The following suggestions are given to aid the teacher in helping the child to write.

1. The construction of sentences can be approached through a study of transformational grammar (linguistics).
2. Provide the child with assignments to write frequently. As a general rule hearing impaired children should write 3-4 times more than other students.
3. When making a creative-writing assignment, be cautious not to defeat the child with corrections. Place emphasis on imaginative, creative work. Take note of what language structures need more work without drawing it to the attention of the child.
4. Like other children, hearing impaired children enjoy writing about themselves and their own experiences.

Overlay #5 Mathematics

Purpose: This overlay is to be used when suggesting methods to the teacher for teaching mathematics concepts to hearing impaired children.

Hearing impaired children can be expected to reach the same competency in mathematics as other children. The recommendations made for teaching mathematics to hearing children can apply also to other children. The only time a hearing impaired child will be at a real disadvantage is when a math problem is put in the context of language. The following list of suggestions will help the teacher to develop the hearing impaired child's potential in mathematics:

1. Like other children, the hearing impaired child needs a visual, manipulative approach to mathematics so as to visualize numerical quantities and understand numerical relationships. Provide many experiences to use manipulatives such as beads, buttons, sticks, colored strips of paper, the flannel board games, and instruments for measuring. Capitalize upon the use of color as well as shape to teach numerical concepts.
2. The math curriculum can challenge the hearing impaired child by providing numerous opportunities for problem solving.
3. Problem solving in the context of language will probably pose the greatest difficulty for the hearing impaired child. You might approach problem solving using concrete visual clues. When using verbal cues try to use problems which are real to the child's experience. Ultimately, the language of a word problem should be taught.

Transparency # 18 Media

Purpose: The purpose of this transparency is to inform the teacher of the importance of the increased use of media, their appropriate usage, and its role in educating hearing impaired children.

Media Needs

The use of multi-media with hearing impaired children is important because other senses must compensate for the hearing disability. Dependence on vision and touch increase as the degree of hearing impairment increases. A multi-sensory approach through the use of multi-media is recommended to aid the hearing impaired child to learn information ordinarily learned primarily through the auditory modality.

The following suggestions are offered to the teacher to help implement a multi-sensory approach to learning:

1. There should be a variety of audiovisual equipment available to the teacher and the student. At least one means should be provided for each medium need. These needs are:
    a. a means to project still pictures for large group study (This need is met through the use of the overhead projector, the filmstrip projector, the slide projector, or the opaque projector).
    b. a device for use in auditory training (the language master, tape recorder, record player and an amplifying unit can provide this function.)
    c. a means to project motion pictures (16mm, Super 8mm, and film loop projectors serve this function.)
2. Special boards providing visual or tactile stimulation should be

available. A clean chalkboard, attractive instructional bulletin boards, and manipulative boards such as flannel, and magnetic boards can meet this need.

3. Self-instructional devices should be available to the hearing impaired children to operate independently. Devices designed for individual use include filmstrip viewers, cartridge projectors, cassette recorders, reading pacers, listening stations, programmed learning machines, etc.
4. A variety of colorful, attractive print materials should be employed by the teacher and made available to the hearing impaired child. Each curriculum area should have a clear, concise textbook or another comparable source of information. Other print materials should include supplementary books, reference books, periodicals, newspapers, programmed materials, etc.
5. Materials designed especially for visual learning or tactile learning--such as charts, maps, globes, photographs, games, specimens, models, etc.--should be available to the child.

The Use of Media for Presentations

Hearing impairment poses problems when using some media. Familiarity with the advantages and disadvantages of each piece of equipment will help the teacher to obtain maximum usefulness. The following list should help the teacher in selecting media and in making adjustments for their effective usage.

1. Overhead Projector - The overhead projector is considered to be valuable for group instruction because it has two distinct advantages. One advantage is that when using the overhead projector, the teacher stands at the front of the room facing the students. The back

is not turned as when using the chalkboard. Another advantage is that the room need not be darkened while it is used. The light from the stage actually casts light on the user's face to facilitate speechreading. The overhead can also provide an effective means of communication between the teacher and the hearing impaired child. If an overhead is available for the child to use, questions or comments can be written by the child to the teacher. The teacher can then respond to the child using a second overhead.

2. Filmstrip Projector, Slide Projector - Captioned filmstrips and slides are most meaningful to hearing impaired children. To make sure the child has read each caption, you may ask him/her to change each picture. If a cassette tape or record, supply the child with a script and a special light to be used during the viewing. If the teacher speaks during the filmstrips or slide presentation, arrange for the use of special lights to illuminate his/her mouth. In situations where the child must read a script or lips, allow enough time so that the child can also view the picture.
3. Opaque Projector - Special lights for speechreading should be used. The use of a pointer helps direct attention to the point in the picture being discussed.
4. Motion Picture Projector - A topic outline, summary or script should be made available to the child in advance of viewing a film.

5. Tape Recorder, Record Player - When employing these devices for auditory training, use headphones or appropriate amplification to minimize extraneous sounds. When a group is listening to a recording for informational purposes, the hearing impaired child should be provided with an alternative activity to meet the same objective.

Media in Individualized Learning and Self-Expression

The function media performs in relation to the hearing impaired child will help determine its impact on learning. Traditionally, media have functioned as tools employed primarily by the teacher to enrich instruction. To reach optimum potential for providing individualized learning, the use of media should be expanded so as to become tools for the student. The student can learn from using and producing media in the following ways:

1. The hearing impaired child should be able to use media in self-expression. Reports, presentations and creative projects might take any of the following forms: student-produced films, filmstrips, video-tape programs, transparencies, magazines, newspapers, picture boards, bulletin boards, displays and models.
2. The hearing impaired child should have available media for self-instruction. Opportunity to select instructional media and to use them independently should be given to the child. The use of contracts can help give direction and purpose to the child when selecting media. Self-instruction in specific skills can be accomplished through the use of programmed learning materials.

Transparency #19 The Physical Environment of Classrooms

Purpose: This transparency depicts some of the environmental conditions which should be considered when a severely hearing impaired child is mainstreamed.

Architectural Design

Classroom environments differ in numerous ways depending upon age of construction, philosophical design, size, location of school, etc. There is little universality in the design of classrooms. In addition to these factors, there is a general lack of standardization in architectural aspects of classrooms, especially regarding the acoustic environment. While guidelines for the visual climate of classrooms have been established, no such guidelines for the acoustic environment have been designated. The hearing impaired child is affected by the physical environment of the classroom in two major parameters: vision and acoustics.

Visual Environment

An adequate light source must be made available to the hearing impaired child in order that the visual sensory modality can be effective as an alternative to the auditory-sensory modality. In order to speechread, interpret signs, attend to stimuli etc., a very good light source must be present. Most schools have been designed to provide adequate light sources. Special consideration must be given the hearing impaired child so that his visual environment permits him to accomodate for his impairment.

Many children respond poorly to heightened visual stimuli, i.e., distraction, foreground-background problems, hyperactivity and poor attention span. Special consideration may be given to the hearing impaired child regarding responses to heightened visual stimulation. In some instances, a carrel or restricted desk can be afforded the hearing impaired child in order that at certain times in the day the visual stimulation can be reduced. Resource rooms can provide such a visual atmosphere for the hearing impaired child. Classroom teachers should be aware of this need in the child who is usually very reliant upon visual input.

Acoustic Environment

It is particularly inportant that optimum acoustic conditions be provided for the hearing impaired child. Classroom noise, street noises, school noise (band practice), are amplified for the hearing impaired child who wears and uses a hearing aid. Auditory discrimination and speech perception become difficult tasks for the child who receives noise as loudly as speech. The literature in psychoacoustics attests to the need for adequate room acoustics, background noise levels, speech production levels, reverberation time, and distance between speaker and listener. These data indicate that a favorable signal-to-noise ratio must be present in order for speech perception to be accomplished. For the hearing impaired child the effects of noise are detrimental. Locating the sound source, discriminating between the important signals and the less important ones, maximizing use of residual hearing etc., require a favorable acoustic environment.

A number of provisions can be considered in order to improve the acoustic environment for the severely hearing impaired child. These provisions can be summarized as follows:

Sound Absorptive Materials

1. Additions of sound absorptive materials to the classroom--carpets, curtains, sound-treated panels, acoustic tiles and the like enhance the acoustic environment for all children. A general consideration might be to reduce the "hard" surfaces present in the classroom, i.e., tile floors, glass, chalkboards, etc.

Amplification Units

2. Amplification units which provide for greater fidelity and reduce extraneous noise are advised. A variety of amplification units are available commercially which enhance the acoustic signal for the hearing impaired child. Specialists in the design of auditory equipment should be consulted regarding optimum units for a particular school and classroom. Hearing aid dealers on a local level, audiology centers, schools for the deaf and architectural consultants can provide sources of equipment and consultation services.

Use of Microphone

3. The consistent use of a microphone designed for the child's amplification system by the teacher and other children can assist the hearing impaired child within the classroom. The use of the microphone can be facilitated for the teacher by specially designed carriers and holders.

Classroom Noise Levels

4. Maintaining a classroom noise level which rarely exeeds

65-70 dB as measured by a sound level meter is helpful to all students within the classroom. Normal hearing children are also affected in their auditory discrimination ability by classroom noise levels which exceed these figures. Children with reading and language difficulties typically perform more adequately in noise-reduced environments with noise levels beyond 70 dB. Sound level measures can be performed in individual classrooms by personnel within the school district, or on a consultant basis from audiologic centers, state agencies or federal noise pollution offices.

Transparency #20 The Educational Environment of Classrooms

Purpose: The purpose of this transparency is to depict the environmental changes the hearing impaired child will experience when making a transition from a special class to the mainstreamed class.

Certain environmental changes will be encountered by all hearing impaired children who enter the maintreamed classroom. These changes are identified as the following:

1. The child will move from a classroom with few children to one with many children.
2. The child will move from a classroom with a small pupil-teacher ratio to one with a larger pupil-teacher ratio.
3. The child will experience communication problems in the new classroom.
4. The child will have less contact with other hearing impaired children.

The extent to which the hearing impaired child adjusts to these changes depends upon the type of classroom environment established by the teacher and the modifications s/he makes to accommodate the child. In an attempt to offer suggestions to the teacher to make accommodations, two types of classrooms have been identified: the formal classroom and the informal classroom, with the understanding that there are many variations of each type extending along a continuum.

The Formal Classroom

The formal classroom is primarily teacher centered, i.e. learning revolves around the teacher, who is responsible for determining what and how the children will learn. Generally, the teacher is accountable for accomplishing specific curriculum goals and objectives which have been formally defined. The school day is typically divided into periods during which given subjects are studied. The children are assigned desks which are often arranged in rows facing the area where the teacher addresses the class. Because most of the day is consumed by either formal instruction from the teacher or paper-pencil activities designed to reinforce instruction, there is a minimum amount of visual distraction and noise.

Given this environment, the following suggestions are offered to help provide a comfortable, advantageous learning environment for the hearing impaired child:

1. Provisions for flexible seating are needed to facilitate optimum speechreading conditions and to provide for peer-group interaction.
2. Provisions for individualized remedial instruction are needed to compensate for deficiencies attributed to hearing impairment.
3. The teacher should ask questions frequently to insure that the child is following and understanding.
4. Special effort to encourage the hearing impaired child to participate in class discussions is needed to overcome the insecurity which the child will probably feel in a large group of people.
5. Activities designed to work toward affective goals and to provide for social learning need to be structured into the day. Affective goals include the formation of a value-system and the identification

and expression of feelings. Social learning goals are directed at helping the child to learn behavior which is socially desirable.

6. Learning activities are needed which are designed specifically to help the hearing impaired child develop independence and responsibility, and to learn decision-making.

The Informal Classroom

The informal classroom is child-centered. The teacher's role is that of a learning facilitator who is responsible for providing stimuli to help the child develop interests, to provide materials needed by the child to pursue interests, to help the child establish learning objectives, to help the child select appropriate learning activities and to guide the child toward mutually agreed upon goals. The school day is flexible in that each child determines what s/he will study and how much s/he will accomplish. The classroom is composed of numerous learning centers or activity stations scattered throughout the room with tables and chairs informally placed for children to use throughout the day. Generally, the child will have a special place to put personal belongings but s/he will not have an assigned seat at a table. Interactions in the classroom are usually personal and informal. Noise and visual distraction are greater than in the formal classroom because of the number of activities and the amount of informal communication.

When mainstreaming a hearing impaired child into an informal classroom, the following needs should be addressed in order to provide a comfortable and academically productive environment:

1. Provide a systematic approach to learning basic skills. It is important that the teacher evaluate regularly the child's needs in the language arts and that formal instruction be given to meet these needs.
2. Provide a study carrel or a visually and sound-restricted desk for the hearing impaired child to use.
3. Encourage the use of the resource room which might function in the following ways:
    a) a place for formal instruction
    b) to provide the comfort and security
    c) a place to bring friends or associate with other hearing impaired children.
    d) to provide for physical needs such as new batteries.
4. Observe the hearing impaired child closely to see that s/he is adjusting socially and is being included by other children in the activities.

Suggestions for the Trainer

The following questions are intended to help your staff apply this information to their specific needs. They may be used at the discretion of the group leader. Some questions may apply primarily to fully integrated children whereas others will apply to all integrated children. In order to help the group leader select questions most appropriate for your situation the questions have been grouped into four categories:

1. Questions concerning academic curricula
2. Questions concerning social adjustment
3. Questions concerning the use of media
4. Questions concerning physical environment

Some questions might be used in a large group setting; others might be more effectively discussed in small groups.

Questions Concerning Academic Curricula

1. How are you going to determine the severely hearing impaired child's ability?
2. How are you going to assess the child's academic needs?
3. Does your curriculum take a systematic approach to learning basic skills? If not, how can you provide for this?
4. Does your curriculum stress a variety of thinking skills? If not, how can you modify the existing curriculum to include them?
5. How will you reinforce new skills, vocabulary and concepts which ordinarily would be reinforced incidently for the normal hearing children?
6. How will you determine what facts, concepts, skills, experiences, vocabulary and language structures are lacking in the hearing impaired child's background before presenting reading material?

How will you compensate for any deficiencies if the other children are more adequately prepared?

7. How can you work to increase the hearing impaired child's mastery of language structures without discouraging the child's creativity?
8. Is your curriculum one which emphasizes the interrelationships between skills, concepts, and experiences? If not, how can you modify it to integrate learning?
9. How will you provide a multi-sensory approach to learning?

Questions Concerning Social Adjustment

1. What criteria will you use in selecting a buddy or peer tutor?
2. What approach will you take in establishing affective learning goals? (i.e., How will you help the child to enhance his/her self-concept and instill in him/her a consideration for others?)
3. How will you approach teaching social behaviors which the child may be lacking?
4. How will you help the child to participate in community activities?

Questions Concerning Media

1. Can your media adequately meet the needs of a hearing impaired child? If not, how will you provide for these needs?
2. How will you accommodate the hearing impaired child when using auditory media?
3. How can you involve the hearing impaired child in the use and production of media?

Questions Concerning Physical and Educational Environment

1. What specific problems would the physical environment of your classroom pose for a hearing impaired child? How can you modify the environment to solve these problems?

   (Consider the following factors:)

   1. noise
   2. visual distraction
   3. integrated learning
   4. affective goals and social learning
   5. flexible seating to facilitate speechreading and small group work
   6. systematic approach to learning basic skills

2. What will be the function of your resource room?

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Orientation to Hearing Impairment

ORIENTATION TO HEARING IMPAIRMENT

Introduction

This section of materials deals specifically with two target groups which may benefit from an orientation program. The materials are divided into: (1) orientation information directed to the hearing impaired child regarding a "new" school environment, and (2) orientation information directed to the hearing children which is designed to enhance their acceptance of the hearing impaired child.

Personnel to Perform the Orientation

These materials have been designed to be implemented by the classroom teacher. This teacher is viewed as the central figure in the coordination of services between the previous school setting, the new school setting, the parents, the community personnel and other interested persons. Each teacher will be able to assess the needs of the particular child in terms of parental values, educational strengths, interpersonal (social) skills, and adaptation to new environments. Some teachers may choose to present these materials after observing the child and his parents for a time. Other teachers will elect to present the peer orientation materials during the hearing impaired child's transition to the new school. Individual decisions concerning appropriate information will be required by the teacher.

The Role of the Parents

The family of a hearing impaired child may present some specific assets to the classroom teacher in providing experiences and information regarding orientation of both target groups. It is not atypical for parents of children with special needs to participate frequently and regularly in the decision-making process of education for their child. Parents may appear to display unusual anxiety regarding these decisions. However, the classroom teacher may be able to deal constructively with these feelings by providing parents varied channels for input regarding peers and the child himself/herself. Parents who are included in these processes appear to be responsible contributors to the teacher and the school.

Occasionally parents of children with special needs appear to require a great deal of guidance in order to provide familial support for their child. Parents who display this tendancy can be encouraged to participate in the educational setting in many ways which are constructive to the child.

The following suggestions are directed to the classroom teacher for consideration when attempting to assist the parents of the hearing impaired child:

1. Schedule an initial conference during which some educational program can be defined for the child. A letter to the parents, the assistance of appropriate school personnel, and a comfortable arrangement for the child himself/herself, can enhance this initial contact.
2. Arrange an on-going communication system between the parents and the teacher which the child understands, in order to provide for review materials at home, up-dated progress reports and special problems and achievements.
3. Encourage both parents to participate in school-wide activities as room mother, field trip assistant, library volunteer, scout leader, etc.
4. Acquaint the parents with materials available to the teacher and

the parents locally, such as: The Volta Review, The American Annals of the Deaf, Exceptional Parents Magazine and Ideas for Parents - a newsletter from the Lexington School for the Deaf.

5. Arrange for expanded educational activities in the form of tutoring, summer school programs, recreational programs affiliated with the school, etc. to be suggested to the parents in order to provide them with additional information which they may request.

Materials for Hearing Impaired Children

It is possible that the hearing impaired child will participate in an orientation program designed by the school for the deaf which he has attended, designed by his parents, or designed by an external agency. Suggestions are included which may provide additional resources for the classroom teacher, or which may be used in addition to or in the absence of such an orientation program. In addition to the suggestions listed, a video tape recording is included in these materials. This video tape recording presents Mr. Frank Bove, a hearing impaired adult, who has experienced integrated education. The recording (script included) is directed to the hearing impaired child.

The following suggestions are directed to the classroom teacher as procedures which may be helpful to the hearing impaired child. Some consideration should be given to those children who do not possess the verbal or speechreading skills necessary to engage in teacher-student conferences, and alterations of these suggestions may be necessary.

1. Discuss the rules and privileges within the new classroom.
2. Show the student the school facilities (bathroom, school nurse, bus and coat room).

3. Discuss with the student his/her seating arrangements.
4. Encourage the student to discuss freely with the teacher any problems that arise.
5. Encourage the student to rely on the teacher to help him/her in uncomfortable situations.
6. Encourage the student to ask questions when s/he does not understand the assignment or the task.
7. Encourage the student to participate in the selection of his/her own "buddy".
8. Encourage the student to actively join his/her classmates in group centered activities.
9. Encourage the student to share his/her own experiences with his/her classmates.
10. Explain to the student that parent-teacher conferences will be held to insure the student communication with the family.
11. Encourage the student to continue interacting with hearing impaired students.

Materials for Peer Orientation

These materials are designed to be implemented by the classroom teacher in conjunction with other school personnel and parents. The purpose of an orientation program for peer usage is to enable the hearing impaired child to be more readily accepted by his "new" peers. The attitude and understanding of other children will affect the social and academic adjustment of the hearing impaired child. The classroom teacher may assist the other children in the following ways:

1. Present materials regarding hearing impairment to the children

which provide them with accurate information.

2. Provide the children with information regarding the effects of hearing impairment on communication skills, social and behavioral skills.
3. Permit the children to participate in the implementation of the alterations of the classroom environment, specifically, noise reduction alerations, seating plans, etc.
4. Assist the children in determining appropriate behavior toward their new classmate.

The following activities are suggested to the classroom teacher in order to assist in meeting the four goals stated above:

1. Include units on the ear and general problems in communication in the school curriculum.
2. Give the other children an opportunity to perceive the effects of a hearing impairment through simulation experiences.

   Examples:

    a) Ask the children to cup their hands tightly over their ears while the teacher proceeds to read softly the directions for an assignment.
    b) Play the children's favorite records at a low volume and ask them to identify the songs.
    c) To show that there are differences in the hearing capacity of all people; station a clock or watch with audible ticking at one place in the room. Each child should then walk away from the clock and stop at the point where the ticking is no longer audible.

   d) Call the class roll silently using only your lips. Have each child signal when s/he recognizes his/her name.
   e) Impose barriers to effective communication by speaking with your hand in front of your mouth, chewing gum, mumbling, and turning your back.

3. Encourage the hearing impaired child to offer a learning center on manual communication if the child possesses such skills. This might be integrated into a unit of non-verbal communication (codes, signals, braille, etc.)
4. Arrange a class trip to local programs affiliated with hearing impairment.
5. Direct the children to literature about people who have been pioneers in the education of the deaf or who have personally experienced hearing handicaps. (See References - Peer Bibliography)
6. Encourage the children to watch TV programs which include hearing impaired persons, i.e. Sesame Street (segments with stars of National Theatre for the Deaf), Zoom (segment on camp for deaf children), Mister Rogers (segments on manual communication).
7. Invite a member of a local "deaf club" to visit the class and interact with the children.

Rationale for the Video Tape Recording

These materials have been produced in order to provide school districts with materials targeted for the hearing impaired child who is being mainstreamed. The video tape recording presents Mr. Frank Bowe, Coordinator of Services, Deafness Research and Training Center, New York University, speaking to an 11 year old hearing impaired child, Peter Cook. Mr. Bowe, a hearing impaired adult, prepared these materials which are based on his personal experiences. His method of communication combines speech and signs.

The suggestions for the use of this video tape recording are as follows:

1. School personnel must preview the video tape recording.
2. If possible, the parents of the hearing impaired child should be present during the preview.
3. During the presentation to the hearing impaired child, a teacher or parents should accompany the child.
4. Hearing impaired children who are unfamiliar with signs can rely on speechreading ability or the use of the script which is included.
5. Individual classroom teachers may wish to present this video tape recording to their classes as part of the orientation to the hearing impaired program.

HI-FI

presents

FRANK BOWE

Hi! my name is Frank Bowe and this is Peter. I came here today to talk with Peter and with you. I can't hear, Peter. When I was your age, I went to school with children who could hear. I remember that I thought the other children were very smart because they seemed to learn so much easier than I did. I remember thinking that those kids were better than I was. And, it wasn't until much later, that I found out that the reason learning was harder for me, was not because I wasn't smart, but because so much learning happens through the ear. I was just as good as the other kids. It's just that I never heard the words that they heard, so I didn't learn many of the things that they learned. I know now that I am just as good a person as the other kids were. It's just that I had to use my eyes more to get what they got through their ears.

For example, I remember we had vocabulary and spelling tests. The other kids, they got almost all the words right, but I got maybe half right.

Why?

Why? Because I never heard the words that they heard. I had to go home and look them up in the dictionary, but the words in the dictionary... they were just as strange as the words on the test. So I had to learn strange meanings for strange words. And that's why I got about half right -- not because I wasn't smart -- but because the other kids could hear and I couldn't. With the spelling tests it was much the same.

Another thing I remember was that the kids would always tease me about my hearing aid. Maybe they tease you too. They would tell me a story, and they would laugh when I got the story mixed up. Many times they would not let me play with them, and I had to play by myself. And again, I thought I was not as good as the other children. But, that's not true. And it is not true for you either. I was different from them, and people, especially young children, they found it hard to be with people, around people, who were different.

When I went to school with those children, they didn't understand what it meant not to be able to hear. So sometimes, I had to try a little harder to help them. I would introduce myself to them: "Hi, I'm Frank Bowe." I would teach them how to spell their names. Many children enjoy learning how to spell their names -- P E T E R, F R A N K, D E B B I E. They enjoyed learning. Sometimes, I invited children home to go to a movie or to play some tennis. I think that you will find too, that a real friend will stay with you and will help you, if you will stay with him and help him.

What does this mean to you and to you? Like me, you will go to school with children who can hear. And sometimes, it will be hard for you, not because you are not smart, but because you can't hear as well as the other children. Maybe you could do what I did. I sat in the front row. I read as much as I could. And I wore my hearing aid every day. My parents helped me after school. You can wear your hearing aid every day, and you can lipread the best you can. If you don't understand something, ask and ask again until you understand.

You are just as good and just as smart as the other kids. You have just as much right to learn as they do.

Peter, what can you do when the other children tease you? You can tell them that you can't hear. You can show them your hearing aid and explain how it works. You can tell them that you are just the same as they are. You have two eyes, one nose, one mouth, two arms and two legs. The only thing that is different about you is that your ears don't work.

Most important, don't give up, because you are an important person. There is no one else in the world exactly like you or you. Don't you ever forget that you are good and you are smart, and with a little bit more effort, you can do just about anything you may want to do.

And make sure that your teacher knows that you can't hear very well. If you don't understand what your teacher says. Ask, don't let it go. If another child says something that you don't understand, say so. Say: "I don't understand." They can speak clearly for you. They can write. They can look at you when they talk to you. And you can help them by telling them: "Don't shout." and "Say it again, when you don't understand."

If there is an interpreter in your room, what he or she will do is to interpret in signs or finger spelling what the teacher says and what the other children say. Be sure you watch the interpreter carefully. If you miss something, don't let it go, ask! If you want, the interpreter will speak for you and will tell the teacher what you say.

Don't try to take notes and watch the interpreter at the same time. You can't do that. Let someone else do that because you can't watch the interpreter and take notes at the same time. Now how do you get a notetaker? Maybe your teacher will ask someone to take notes for you or maybe you will have to ask someone. Just pick someone who seems friendly, and ask: "I can't hear. Will you take notes for me?"

There will be problems from day to day and sometimes you will fall behind in something - reading, writing, spelling - something. And sometimes you will have a teacher you can't understand, or a kid will pick on you. These are times to talk with your teacher and with your parents. That is what they are for, to help you if you have a problem.

I got through school. I did OK, and you can too, and so can you. Thank you.

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Keats, Ezra J., *Pssst! Doggie*, N.Y., F. Watts, 1973. 4.95.

Mayer, Mercer, *A Boy, a Dog, and a Frog*, N.Y., Dial, 1967. 2.50.
A Boy, a Dog, a Frog, and a Friend, N.Y., Dial, 1971.
Bubble, Bubble, N.Y., Parents, 1973. 4.50

Mordillo, Guilermo, *The Damp and Daffy Doings of a Daring Pirate Ship*, N.Y., Quist. 4.95.

Olschewski, Alfred, *Winterbird*, Boston, Houghton, 1969. 3.25.

Ward, Lynd, *The Silver Pony*, Boston, Houghton, 1973. 5.95.

Additional References

FILMS

Listen (with captions)
16 mm, color, sound
30 minutes
Producer: Griswald
Total Communication Laboratory
Western Maryland College
Westminster, MD 21157

Deafness and Communication (with script)
16 mm, color, sound
11 minutes
Producer: Division of Research and Training
National Technical Institute for the Deaf
Rochester Institute of Technology
One Lomb Memorial Drive
Rochester, New York 14623

VIDEOTAPES

Communicating Effectively With Deaf Children
1/2 inch videotape
20 minutes
Producer: New York University Deafness Research & Training Center
New Yrok University
80 Washington Square East
New York, NY

Duxbury School Teachers
1/2 inch videotape
Producer: Mr. James Williamson
Teacher-Coordinator
Duxbury Day Class Program
Duxbury, MA

ARTICLES

Adjusting to Integration: Some Difficulties Hearing Impaired Children Have in Public Schools
"The Volta Review", Vol. 75, Jan. '73, p. 36.
Author: Elizabeth Frick

Creating a Receptive Climate in the Mainstream Program
"The Volta Review", Vol. 75, Jan. '73, p. 23
Author: Doris J. Leckie

Facilitating the Integration of Hearing Impaired into Regular Public School Classes
"The Volta Review", Vol. 75, Jan. '73, p. 13.
Authors: Grant B. Bitter and Edwin G. Mears

Parent Potential
"The Volta Review", Vol. 75, April '73, p. 220.
Author: Bruce D. Shepherd

A Resource Room Program for Hearing Impaired Students
"The Volta Review", Vol. 75, April '73, p. 208.
Author: Elizabeth Bowman

Pushing Back the Walls Between Hearing and Hearing Impaired Children
"The Volta Review", Vol. 73, Sept. '71, pp. 359-364.
Authors: Steven R. Mecham and Robert C. Van Dyke

An Experimental Summer School: Impetus for Successful Integration
"The Volta Review", Vol. 72, Nov. '70, pp. 498-507.
Author: Winifred N. Northcott

REFERENCES FOR INSIGHT INTO DEAFNESS

In This Sign (book)
By: Joanne Greenberg (Holt, Rinehart and Winston, c1970)

The World of Deafness--As Viewed by an Insider (article)
By: Malcolm J. Norwood, Chief
Media Services and Captioned Films
Bureau of Education for the Handicapped
United States Office of Education
Dept. of Health, Education, and Welfare
Washington, D.C. 20202

Basic Needs of Deaf People and Life Problems of Deaf People (articles)
By: Boyce R. Williams, Director
Office of Deafness and Communicative Disorders
Department of Health, Education, and Welfare
Social and Rehabilitation Service
Washington, D.C. 20202

Rossett, Allison, A Mediated Program to Facilitate Communication Between Hearing Parents and Deaf Children, Northeast Regional Media Center for the Deaf, University of Massachusetts, Amherst, MA, 1973.

Suggestions for the Trainer

The following topics are suggested for discussion in order to provide teachers with ideas for orientation which are personal and productive to the school situation. It is hoped that additional orientation materials will be generated by the discussion. A transparency is designed to stimulate discussion. (21)

Large Group Discussion:

1. What community resources are available to the district so that our children can be exposed to a variety of hearing impaired children and adults?
2. What specific additions to the library (both school and community) appear necessary in order that adequate resources and references are available to children and school personnel?
3. Are there parents of children with other special needs in the community who can lend support to teachers and parents of hearing impaired children during the transitional adjustment to the new school setting?

Small Group Discussion:

1. What activities in addition to those discussed can be implemented in our curricula in order that children better understand hearing impairment?
2. Can liaisons be developed with the parents of hearing impaired children which provide for better communication between parents and teachers, parents and hearing impaired children?

3. What guidelines can be set in order to evaluate the hearing impaired child regarding his comfort in participating in orientation activities, amount of participation, embarrassment, interest, etc.?

BEST COPY AVAILABLE

Resources

State Administrators for Special Education

Each state department of Education has designated personnel responsible for special education programs. These departments can furnish information relative to the hearing impaired child.

Alaska

Mr. John Antonen
Special Education
State Dept. of Education
Juneau, Alaska 99801

Arizona

Mr. Fred Rozum
Division of Special Education
Dept. of Education
1730 West Adams
Phoenix, Arizona 85007

Arkansas

Mr. Tom J. Hicks, Supt.
Arkansas School for the Deaf
2400 West Markham Street
Little Rock, Arkansas 72203

California

Mr. Leslie Brinegar
Director of Special
Education Services
State Dept. of Education
Sacramento, California 95814

Colorado

Mr. David C. Miles
Director of Special
Education Services
State Dept. of Education
State Office Building
Denver, Colorado 80203

Connecticut

Dr. Wendel Walton
Consultant for Speech
Hearing and Language Impaired
State Dept. of Education
Box 2219
Hartford, Connecticut 06115

Delaware

Mr. Robert C. Hawkins, Director
Instruction Division
State Dept. of Public Instruction
Townsend Building
Dover, Delaware 19901

District of Columbia

Mr. Merle Van Dyke
Assistant Superintendent,
Special Education
Presidential Building
6th Floor
415-12th Street N.W.
Washington, D.C. 20036

Florida

Mrs. Gladys Crawford
Consultant of Deaf Education
Exceptional Child Education
Florida Dept. of Education
Tallahassee, Florida 32304

Georgia

Mrs. Mary Janette Harden
Consultant of Hearing Impaired
Special Education Program
Division of Early Childhood
Special Education
State Dept. of Education
Atlanta, Georgia 30334

Hawaii

Mr. Hatsuko F. Kawahara
Special Education Project Section
State Dept. of Education
1270 Queen Emma Street
Room 806
Honolulu, Hawaii 96813

Idaho

Mr. John F. Comba, Consultant
Special Education
State Office Building
Boise, Idaho 83700

Illinois

Mr. David W. Donald
Dept. of Exceptional Children
1020 South Spring Street
Springfield, Illinois 62706

Indiana

Mr. Gilbert Bliton, Director
Division of Special Education
Dept. of Public Instruction
108 State Office Building
Indianapolis, Indiana 46204

Iowa

Mr. Richard Fischer
Division of Special Education
State Dept. of Public Instruction
Grimes State Office Building
East 14th and Grand Avenue
Des Moines, Iowa 50319

Kansas

Mr. James E. Marshall
Division of Special Education
State Dept. of Education
120 East 10th Street
Topeka, Kansas 66612

Kentucky

Mrs. Jean Bell, Consultant
Education of Exceptional Children
Division of Special Education
State Office Building
Frankfort, Kentucky 40601

Louisiana

Dr. Gary D. Yarnall
Co-ordinator Visually Auditory
Impaired
P.O. Box 44064
Baton Rouge, Louisiana 70804

Maine

Mr. Joseph W. Kern
Bureau of Guidance
and Special Education
State Dept. of Education
Augusta, Maine 04330

Maryland

Ms. Joan C. Maynard
Specialist Speech and Hearing
State Dept. of Education
600 Wyndhurst Avenue
Baltimore, Maryland 21210

Massachusetts

Ms. Marianne C. McKeon
Senior Supervisor, Deaf Children
State Dept. of Education
182 Tremont Street
Boston, Massachusetts 02111

Michigan

Mr. Murray Batten
Special Education Services
State Dept. of Education
Lansing, Michigan 48902

Minnesota

Mr. John Groos
Special Education Section
State Dept. of Education
Capitol Square
500 Cedar
St. Paul, Minnesota 55101

Mississippi

Miss Sarah Thomas
Consultant House Bill 4
Learning Disabilities and
Hearing Impaired
State Dept. of Education
Jackson, Mississippi 39205

Missouri

Mr. Donald Cox
Special Education
State Dept. of Education
Box 480
Jefferson City, Missouri

Montana

Mr. Larry Holmquist
Special Education
State Capitol
Helena, Montana 59601

Nebraska

Dr. Francis Colgan
Special Education Section
State Dept. of Education
233 South 10th Street
Lincoln, Nebraska 68505

Nevada

Mr. Larry Daivs, Director
Exceptional Pupil Education
State Dept. of Education
Carson City, Nevada 89701

New Jersey

Mr. Hollis Wyks, Director
Day School Programs for
Deaf and Hearing Impaired
Division of Curriculum and
Instruction
Branch of Special Education
State Dept. of Education
225 West State Street
P.O. Box 2019
Trenton, New Jersey 08625

New Hampshire

Dr. Arthur Gillette
Director of Special Education
State Department
61 North Main Street
Concord, New Hampshire 03301

New Mexico

Mr. Elie S. Gutpierrez
Specialist, Instructional Services
State Dept. of Education
State Education Building
300 Don Gaspar Avenue
Santa Fe, New Mexico 87501

New York

Ms. Beatrice F. Jacoby
Supervisor of Special Hearing
Handicapped
State Dept. of Education
Albany, New York 12224

North Carolina

Mr. James L. Earden
Co-ordinator Part B, EHA
Division of Exceptional Children
State Dept. of Public Instruction
Raleigh, North Carolina 27602

North Dakota

Miss Janet Smaltz
Special Education
State Dept. of Public Instruction
Bismarch, North Dakota 58501

Ohio

Mr. S. J. Bonham Jr., Director
Division of Special Education
Ohio State Dept.
933 High Street
Worthington, Ohio 43086

Oklahoma

Dr. Maurice P. Walraven
Director of Special Education
State Dept. of Education
4545 North Lincoln
Suite 269
Oklahoma City, Oklahoma 73105

Oregon

Mr. Mason McQuiston
Director of Special Education
Oregon Board of Education
Salem, Oregon 97310

Pennsylvania

Mr. Robert C. Warkomski
Supervisor, Programs for
Speech and Hearing Impaired
Dept. of Education
Box 911
Harrisburg, Pennsylvania

Rhode Island

Mr. Francis Conley, Consultant
Special Education Division
State Department of Education
Providence, Rhode Island 02903

South Carolina

Mr. Van C. Porter
Consultant Hearing Impaired
State Dept. of Education
Columbia, South Carolina 29201

South Dakota

Mr. Mike Elsberry
Office of Exceptional Children
Human Resource Development Division
Dept. of Public Instruction
804 North Euclid
Pieere, South Dakota 57501

Tennessee

Mr. T. Garland Cross
Director of Special Education
Room 111
Cordull Hall Building
Nashville, Tennessee 37219

Texas

Mr. Don Partridge, Director
Division of Special Education
Development
Texas Education Agency
201 East 11th Street
Austin, Texas 78701

Utah

Mr. Elwood Pace
Coordinator of Special
Education Programs
Utah State Board of Education
136 East South Temple
Salt Lake City, Utah 84111

Vermont

Mr. John W. Ellenwood
Consultant Speech and Hearing
State Dept of Education
Montpelier, Vermont 05602

Virginia

Mr. Wayne Largent
Special Education
State Dept. of Education
Richmond, Virginia 23216

Washington

Mr. M. Spence
Part B Coordinator
Spec. Services Section
Old Capitol Building
Olympia, Washington 98504

West Virginia

Dr. Roger Elser, Director
Division of Special Education
West Virginia Dept. of Education
Building B
Unit 6 Room 315
State Capitol
Charleston, West Virginia 25305

Wisconsin

Mr. John Melcher
Division of Handicapped Children
and Assistant State Supt.
State Department of Public Instruction
126 Langdon Street
Madison Wisconsin 53702

Wyoming

Mr. Norman Anderson, Director
Wyoming School for the Deaf
539 South Payne Street
Casper, Wyoming 82601

Bureau of Indian Affairs

Mr. Frank N.E. Hall
Branch of Special Services
Division of Student Services
Bureau of Indian Affairs
123 4th Street, S.W.
Albuquerque, New Mexico 87102

Special Schools Serving the Hearing Impaired

Space does not permit listing all the Schools for the Deaf in the United States, therefore state schools and/or better known schools are listed. Additional information available in the American Annals of the Deaf.

Alabama

Alabama School for the Deaf
205 South Street
Talladega, Alabama 35160

205/362-8753

Arizona

Arizona State School for the Deaf
and Blind
P.O. Box 5545
Tucson, Arizona 85703

602/882-5357

Arkansas

Arkansas School for the Deaf
2400 W. Markham Street
Little Rock, Arkansas 72203

501/371-1555

California

California School for the Deaf
2601 Warring Street
Berkeley, California 94704

415/845-4629

California School for the Deaf
3044 Horace Street
Riverside, California 92506

714/683-8140

John Tracy Clinic
806 W. Adams Blvd.
Los Angeles, California 90007

213/748-5481

Colorado

Colorado School for the Deaf
and Blind
Kiowa and Institute Streets
Colorado Springs, Colorado 80903

303/636-5186

Connecticut

American School for the Deaf
139 N. Main Street
West Hartford, Connecticut 06107

203/236-5891

Mystic Oral School
Oral School Road
Mystic, Conn. 06355

203/536-4221

Delaware

Margaret S. Sterck School for
the Hearing Impaired
Chestnut Hill and Cherokee Dr.
Newark, Delaware 19711

District of Columbia

Model Secondary School for the Deaf
Florida Ave. and 7th. St., N.E.
Washington, D.C. 20002

202/447-0411

Kendall Demonstration Elementary School
Florida Ave. and 7th. St., N.E.
Washington, D.C. 20002

202/447-0621

Special Schools Serving the Hearing Impaired

Florida

Florida School for the Deaf
and Blind
San Marco Ave.
St. Augustine, Florida 32084

904/824-1654

Georgia

Georgia School for the Deaf
Cave Springs, Georgia 30124

404/777-3310

Illinois

Illinois School for the Deaf
125 Webster
Jacksonville, Illinois 62650

217/245-5141

Indiana

Indiana School for the Deaf
1200 E. 42nd. Street
Indianapolis, Indiana 46205

317/924-4374

Iowa

Iowa School for the Deaf
Highway 375
Council Bluffs, Iowa 51501

712/366-0517

Kansas

Kansas School for the Deaf
450 E. Park St.
Olathe, Kansas 66061

913/782-2530

Kentucky

Kentucky School for the Deaf
S. Second Street
Danville, Kentucky 40422

606/236-5132

Louisiana

Louisiana State School for the Deaf
504 Mayflower Street
Baton Rouge, Louisiana 70821

504/389-6039

Maine

Governor Baxter State School for the Deaf
Mackworth Island, Falmouth
P. O. Box 799
Portland, Maine 04104

207/781-3165

Maryland

Maryland School for the Deaf
101 Clarke Place
Frederick, Maryland 21701

301/662-4159

Wm. S. Baer School for the Handicapped
2001 N. Warwick Avenue
Baltimore, Maryland 21216

301/357-4000

Prince George's County Board of Education
Instructional Services Center
Upper Marlboro, Maryland 20870

301/627-5577

Massachusetts

Clarke School for the Deaf
Round Hill Road
Northampton, Massachusetts 01060

413/584-3450

Boston School for the Deaf
800 N. Main Street
Randolph, Massachusetts 02368
617/963-8150

Horace Mann School for the Deaf
20 Kearsage Avenue
Roxbury, Massachusetts 02119

617/427-4333

Special Schools Serving the Hearing Impaired

Michigan

Michigan School for the Deaf
W. Court Street and Miller Road
Flint, Michigan 48502

313/238-4621

Detroit Day School for the Deaf
1201 W. Forest
Detroit, Michigan 48201

313/832-6400

Minnesota

Minnesota School for the Deaf
Box 308
Fairbault, Minnesota 55021

507/334-6411

Minneapolis Program for the
Hearing Impaired
807 N.E. Broadway
Minneapolis, Minnesota 55412

St. Paul Area Program for the
Hearing Impaired
447 Macalester Street
St. Paul, Minnesota 55105

Mississippi

Mississippi School for the Deaf
1253 Eastover and 400 Capers St.
Jackson, Mississippi 39216

601/366-2251

Missouri

Missouri School for the Deaf
5th and Vine Streets
Fulton, Missouri 65251

314/642-3301

Central Institute for the Deaf
818 Euclid
St. Louis, Missouri 63110

314/652-3200

St. Joseph Institute for the Deaf
1483 82nd Boulevard
St. Louis, Missouri 63132

314/993-1507

Montana

Montana State School for the Deaf
and Blind
3911 Central Avenue
Great Falls, Montana 59410

406/453-1401

Nebraska

Nebraska School for the Deaf
3223 N. 45th Street
Omaha, Nebraska 68104

402/451-0292

Nevada

Clark County School District
2832 E. Flamingo Road
Las Vegas, Nevada 89121

New Jersey

Marie Katzenbach School for the Deaf
Sullivan Way
West Trenton, New Jersey 08625

609/883-2600

Bruce Street School for the Deaf
45 Bruce Street
Newark, NJ 07103

201/733-7168

Special Schools Serving the Hearing Impaired

Hackensack Program for the Deaf
210 State Street
Hackensack, New Jersey 07601

201/488-4100

New Mexico

New Mexico School for the Deaf
1060 Cerrillos Road
Sante Fe, New Mexico 87501

505/983-3321

New York

New York State School for the Deaf
401 Turin Street
Rome, New York 13440

315/337-8400

New York School for the Deaf
555 Knollwood Road
White Plains, New York 10603

914/949-7310

Rochester School for the Deaf
1545 St. Paul Street
Rochester, New York 14621

716/545-1240

St. Mary's School for the Deaf
2253 Main Street
Buffalo, New York 14214

716/834-3810

Lexington School for the Deaf
30th Ave at 75th Street
Jackson Heights, New York 11370

212/899-8800

St. Francis de Sales School for the Deaf
697 Carroll Street
Brooklyn, New York 11215

212/789-4004

Mill Neck Manor Lutheran School for the Deaf
Frost Mill Road
Mill Neck, New York 11765

516/922-4100

School for the Deaf, J.H.S. 47
225 E. 23rd Street
New York, New York 10010

212/532-6657

St. Joseph's School for the Deaf
1000 Hutchinson River Parkway
Bronx, New York 10465

212/828-9000

North Carolina

North Carolina School for the Deaf
Highway 64, Fleming Drive
Morgantown, North Carolina 28655

919/237-2450

Eastern North Carolina School for the Deaf
301 Highway North
Wilson, North Carolina 27893

919/237-2450

North Dakota

North Dakota School for the Deaf
Devils Lake, North Dakota 58301

701/662-5113

Ohio

Ohio School for the Deaf
500 Morse Road
Columbus, Ohio 43214

St. Rita School for the Deaf
1720 Glendale - Milford Road
Evandale, Cincinnati, Ohio 45215

513/771-7600

Special Schools Serving the Hearing Impaired

A. G. Bell School for the Deaf
11815 Woodland Avenue
Cleveland, Ohio 44120

216/229-6966

Oklahoma

Oklahoma School for the Deaf
E. 10th and Tahlequah Streets
Sulphur, Oklahoma 73086

405/622-3187

Jane Brooks School for the Deaf
7th and Colorado Avenues
Chickasha, Oklahoma 73018

405/224-3500

Oregon

Oregon State School for the Dea
999 Locust Street, N. E.
Salem, Oregon 97310

503/378-3825

Pennsylvania

Pennsylvania School for the Deaf
7500 Germantown Avenue
Philadelphia, Pennsylvania 19119

215/247-0700

Western Pennsylvania School for
the Deaf
300 Swissvale Avenue
Pittsburgh, Pennsylvania 15218

412/371-7000

Pennsylvania Oral School for
the Deaf
1800 N. Washington Avenue
Scranton, Pennsylvania 18509

717/961-4546

Rhode Island

Rhode Island School for the Deaf
520 Hope Street
Providence, Rhode Island 02906

401/421-9278

South Carolina

South Carolina School for the Deaf
and Blind
Cedar Springs Station
Spartanburg, South Carolina 29302

605/336-8050

South Dakota

South Dakota School for the Deaf
1800 E. 10th Street
Sioux Falls, South Dakota 57103

605/336-8050

Tennessee

Tennessee School for the Deaf
2725 Island Home Boulevard
P. O. Box 886
Knoxville, Tennessee 37901

615/577-7581

Metro Nashville Schools -Hearing
Impaired Program
2601 Bransford Avenue
Nashville, Tennessee 37204

Texas

Texas School for the Deaf
1102 S. Congress Avenue
Austin, Texas 78704

512/442-7821

Callier Hearing and Speech Center
1966 Inwood Road
Dallas, Texas 75235

214/638-1100

Special Schools Serving the Hearing Impaired

Harris County Wide Day School
for the Deaf
3830 Richmond Avenue
Houston, Texas 77027

713/623-5241

Utah

Utah Schools for the Deaf and
Blind
846 20th Street
Ogden, Utah 84401

801/399-5635

Vermont

Austine School for the Deaf
120 Maple Street
Brattleboro, Vermont 05301

802/254-4572

Virginia

Virginia School for the Deaf
and the Blind
E. Beverly Street
Staunton, Virginia 24401

703/885-1541

Virginia School at Hampton
700 Shell Road
Hampton, Virginia 23361

703/245-0052

Washington

Washington School for the Deaf
611 Grand Boulevard
Vancouver, Washington 98661

206/696-6525

Seattle Public Schools
815 4th Avenue North
Seattle, Washington 98109

206/587-5150

Taçoma Public Schools
Program for the Hearing Impaired
P. O. Box 1357
Tacoma, Washington 98401

206/383-1811

West Virginia

West Virginia Schools for the Deaf
and the Blind
Main Street
Romney, West Virginia 26757

304/822-3047

Wisconsin

Wisconsin School for the Deaf
309 W. Walworth Avenue
Delvan, Wisconsin 53115

414/728-2677

Madison Public Schools
Specialized Education Services
545 W. Dayton Street
Madison, Wisconsin 53703

608/257-9561

Wyoming

Wyoming School for the Deaf
539 S. Payne Street
Casper, Wyoming 82601

307/237-3634

Selected Organizations and Publications Related to Hearing Impairment

The Alexander Graham Bell Association
1537 35th. Street, N.W.
Washington, D.C. 20007

This organization was founded by Alexander Graham Bell in 1890. It publishes the Volta Review, a monthly publication on deafness, which promotes the teaching of speech and lipreading to the deaf.

The American Annals of the Deaf
5034 Wisconsin Ave., N.W.
Washington, D.C. 20016

A national professional journal for teachers, specialists and school administrators concerned with education of the deaf.

The American Speech and Hearing Association
9030 Old Georgetown Road
Washington, D.C. 20014

This national professional organization publishes several quarterly journals devoted to speech and hearing disorders.

Council for Exceptional Children
1411 S. Jefferson Davis Highway, Suite 900
Arlington, VA 22202

The Council is a national professional organization devoted to educational, clinical and research development for children with special needs.

Media Services and Captioned Films
Division of Educational Services
Bureau of Education of the Handicapped
U.S. Office of Education
Washington, D.C. 20202

This organization provides captioned films for the deaf on a wide variety of educational topics. A catalogue of films is available.

The National Association of the Deaf
814 Thayer Ave.
Silver Springs, MD 20910

The National Association of the Deaf, organized in 1880, is a national organization of, by and for the deaf. It publishes "The Deaf American," a list of books.

Organizations and Publications (cont.)

Registry of Interpreters for the Deaf, Inc.
P.O. Box 1339
Washington, D.C. 20013

The national Registry of Interpreters for the Deaf, Inc. certification program was established to identify qualified interpreters for deaf persons.

Instructional Material Centers for Handicapped Children

Special Education Instructional Materials Centers SEIMCs) and Instructional Materials Centers (IMCs) have been designated throughout the country. These centers provide a wide variety of materials and equipment for use in schools in their areas. Address inquiries regarding Instructional Materials Centers to:

National Center on Educational Media and Materials
for the Handicapped (NCEMMH)
Ohio State University
220 West 12th Street
Columbus, Ohio 43210

614/422-7596

Bureau of Education for the Handicapped
U.S. Office of Education
Dept. of Health, Education and Welfare
7th and D Streets, S.W.
Washington, D.C. 20202

Teaching Resources

AUDITORY TRAINING

Title and Source	Level	Description
Auditory Stimulator Mafex Associates	Int.	Workbook and Guide. (Teacher's Kit). A Structured Training and Remedial Program for the development of attention, listening and memory skills. Materials range from simple recall to naming of abstractions in sequence. $5.50 per kit.
Auditory Preception Training Development Learning Materials		Designed to present in a sequential manner, 5 areas of auditory perception, each containing 3 levels of activities. The 5 basic areas are: auditory memory, auditory motor, auditory figure-ground, auditory discrimination and auditory imagery. All activity capitalizes on student's interests and educational development while focusing on skill being developed. For students with minimal brain disfunction, auditory perception deficits and those in regular school readiness program. Can be used with individual students, small groups or classes; student progresses as his skills improve. Each of 5 areas consists of 3 different, progressive levels, each containing various sets of spirit masters and cassette tapes. Each area of program may be purchased separately: Memory, $62.00; Motor, $74.00; Figure-Ground, $45.00; Discrimination, $70.00; Imagery, $37.00. Total program, $260.00. Replacement tapes available at $3.50 each. Replacement spirit masters available at .30¢ each.

AUDITORY TRAINING

Title and Source	Level	Description
Vocabulary List John Tracy Clinic	El.	1 booklet of vocab. under 27 main headings, designed as an organized reference list for use with preschool deaf children. @ $.75
Sound-Order-Sense Preston	Primary	Two-year program. Level 1 - first grade; Level 2 - after level 1 completed. Also valuable with older children. Teaches interrelationships of sound, order and sense, on individual, group or class basis. Teacher's Guides contain specific plans for daily lesson. Two pupil response books for each level. Unique crayon affects color of paper when answer correct. 160 activity cards for each level provide activities in awareness, focus, figure-ground discrimination, sequencing, scanning and meaning. Level 1 (96-page Teacher's Guide, 160 activity cards, 5 records, 36 crayon markers) $26.00. Pupils' Response Books 1 and 2, each $1.32. Level 2 (96 page Teacher's guide, 160 activity cards, 6 records, 36 crayon markers), $26.00. Pupils' Response Books, 3 and 4, each $1.32.

GROSS MOTOR

Title and Source	Level	Description
Left and Right Series XV Midwest Reg. Media Center for the Deaf	Elem.	20 transparencies and guide to teach and reinforce concepts of left and right, and to develop the necessary vocabulary. (Especially for deaf and those with language disability.)

LANGUAGE

Title and Source	Level	Description
Language Arts Transparencies for Hearing Impaired Children Northeastern Regional Media Center for the Deaf	El.	Set of 200 transparencies consists of single and multiple transparencies for the teaching of (introduction) and review of (reinforcement) elementary language to the hearing impaired children.
Distar Language I S.R.A.	K Primary	Kit containing 8 spiral-bound books, a story book, color book, page projector, 3 transparencies, and teacher's guide. 180 lessons make up a developmental Lang. program aimed at promoting the ability to use lang. as a vehicle for thinking and conceptualizing. Teacher's Kit. @$150.00. Student set of ten workbooks @$35.00.
Distar Language II S.R.A.	Primary	Presentation books, guide, page protector, take home sheets. 180 lessons in kit form which consolidate and expand skills taught in Distar Lang. I. In addition, new emphasis is placed on lang. analysis and information about qualities and relationships observed in the world. Teacher Kit @$150.00. Student set of 10 workbooks @$39.00.
Fitzhugh Plus Program Allied Educational Council	Elem.	A programmed, individualized approach to reinforce other learning experiences. 6 booklets in "Language and Number" series, and three booklets in "Spatial Organization" series, cover areas of simple math, grammar, verbs, and shape analysis and matching. (includes placement guide and manual) @$16.00.

LANGUAGE

Title and Source	Level	Description
Learning to Develop Language Skills Milton Bradley, Co.	Primary	Materials in kit form related to experiential units of high interest to young children. Emphasis is placed upon development of sequential, associative, and expressive lang. skills, using materials related to such topics as community workers, jobs, the family unit, and animals. Kit with guide/@$37.50.
Peabody Lang. Dev. Kit one, Amer. Guidance Service, Inc.	Gr. 1	Various materials and 180 lessons in kit form designed to stimulate receptive, associative, and expressive linguistic and intellectual processes, with increased auditory and visual stimulation. (Esp. with slow and disadvan. 1st. graders, upper prim. EMR's and inter. trainable children) @$52.00/kit.
Peabody Lang. Dev. Kit #P Amer. Guidance Services, Inc.	K	Various materials and 180 lessons in kit form designed to stimulate receptive, associative and expressive linguistic and intellectual processes, with extensive use of tactile and visual modes of stimulation. Emphasis on syntactical and grammatical lang. structure with stim. of logical thinking. (Esp. with slow and disadvan. Kdg., and lower primary EMR's. @$145.00/kit.
Peabody Lang. Dev. Kit Three, Amer. Guidance Service, Inc.	Gr. 3	Various materials and 180 lessons in kit form designed to stimulate receptive, associative and expressive linguistic and intellectual processes, with emphasis on stim. of intellect and formulation and manipulation of ideas. @$50.00/kit.

LANGUAGE

Title and Source	Level	Description
Peabody Lang. Dev. Kit Two, Amer. Guidance Service, Inc.	Gr. 2	Various materials and 180 lessons in kit form designed to stimulate receptive, associative and expressive linguistic and intellectual processes, with more emphasis on problem solving activities to stimulate divergent thinking. "Esp. disadvantaged and slow 2nd graders, and inter. EMR's. @$65.00/kit.
Project Life General Electric	Elem.	A series of filmstrips lessons which provide a visual imput of receptive language wherein the student is progressively introduced to language principles, concepts and basic sentence structures. @$224.00.
Learning Language Skills McGraw Hill/ Early Learning		Part 1: Age 4-6; consists of 4 language evaluations, a hand puppet, story cards, mirror book, small picture cards, book emphasizing colors, book of animal illustrations and teacher's guide; $63.50. Part 2: Age 5-7; containing, hand puppet, mirrors, six stick puppets w/different facial expressions, flannelboard bunny w/ 7 suits of different colors and textures, book illustrating objects used together or associated with each other, book emphasizing opposites, illustrated cards with object names and symbols, alphabet book, teacher's guide. designed to sharpen powers of observation, strengthen faith in self, stimulate creative thinking @$49.50.

LANGUAGE

Title and Source	Level	Description
Learning Language Skills McGraw Hill/ Early Learning		Part 3: Age 6-8; consists of books, story cards, flannelboard punch-outs, word cards, and teacher's guide. Emphasizes using locational words, following left-to-right progression, interpreting series of story pictures, using designated contractions, assembling story cards in correct sequence, supplying endings for unfinished stories, describing and classifying tastes, smells, shapes; @$50.90. Part 4: Age7-8; includes story cards, verb cards, books, record of poems, hand puppet, teacher's guide Emphasizes color associations, figures of speech, homonyms, poetry, describing things and feelings associated with poetry and music; consonant blends, rhyming words, verbs, different kinds of sentences, listening to and telling fables; @$52.75.
Peabody Lang. Devel. Kits Amer. Guidance Service, Inc.		Four self-contained kits of lessons and materials designed to stimulate overall oral language and intellectual development; each includes 180 lessons with wide and diverse range of materials effective in stimulating receptive, associative and expressive linguistic and intellectual processes. No reading or writing required, no seatwork involved. active participation by all of class.
	Mental age 4 1/2 - 6 1/2	Level #1 - Balance of oral language and intellectual stimulation. More auditory and visual stimuli with fewer tactual materials; $57.00 (specify tape or cassette.)
	Mental age 6 - 8	Level #2 - Emphasis on stimulation of intellect; brain-storming, problem solving $70.00 (specify tape or cassette.)

LANGUAGE

Title and Source	Level	Description
Peabody Lang. Devel. Kits Amer. Guidance Service, Inc.	Mental Age 7 1/2 - 9 1/2	Level #3 - Even greater stimulation of intellect; ideas, concepts; creativity encourage; $54.00
	Mental age 3 - 5	Level #P - tactual and visual stimulation; develop "labeling language", move into emphasis on syntactical and grammatical structure, followed by stimulation of logical thinking; $153.00
SVE Initial Consonant Learning Module Society for Visual Education, Inc.		Series of 18 color sound filmstripe for large or small groups or individually prescribed study. Consonant sounds woven into stories about children. Stories followed by instructional sections; cassette/response card lessons, games, mini-prints, consonant motivator activity cards. Complete module, $275.00.
Visualanguage Edutec	All	Series 1: masters for producing transparencies. Series 2: 102 illustrations, 34 verbs in present, past and future tenses. Series 3: 76 Illustrations of adjectives. Series 5: 33 illustrations of proper use of difficult concepts.

LEARNING SYSTEMS

Title and Source	Level	Description
Cyclo-Teacher Kit, Field Educational Publishers Atheneum		2 Cyclo-Teacher Machines, 179 study wheels, guide, 2 answer wheel pads, storage files, in kit form. A programmed learning system designed for individualized instructional for all levels and types of children in the following skills: lang. arts; vocab.; syntax; spelling; ref. materials; reading comp.; map analysis; and mathematics. Complete kit/@$49.50.
Special Language Program Electronic Futures, Inc.		Specifically for verbally disadvantaged students. Designed to establish, reinforce and improve listening and speaking skills. Series of lesson plans, student worksheets, visual aids, diagnostic and evaluative materials, a set of self-teaching audio flashcards for pupil use. Encompasses four sections of instructional materials: Basic Language Patterns; Use of Prepositions; Understanding and Following Instructions; Classification and grouping. No price listed.
System 80 "E" Borg-Warner Educational Systems		Intensified audio reproduction system and specially designed Telex Headphones. Will reproduce sound with less than 1% distortion at a sound level up to 120 dB and can be maximized to 131 dB SPL. System 80 Library presently comprised of over 450 individualized lessons covering phonics, reading, spelling, math, French and basic learning skills of preschoolers.

LEARNING SYSTEMS

Title and Source	Level	Description
System 80 "E" Borg-Warner Educational Systems		Prices: Systems 80 "E" Machine, $595.00 Systems 80 Programs: Preschool program A, $125.00 Preschool Program B, $150.00 Alphabet A, $112.50 " B, $112.50 " C, $112.50 " D, $112.50 " E, $112.50 " F, $112.50 " G, $112.50 " H, $162.50 3 Kits Pre-School Reading Readiness: Reading, $125.00 Spelling, $112.50 Math, A, $162.50 B, $125.00 C, $162.50 D, $125.00 E, $162.50 F, $125.00 G, $162.50 H, $125.00

LEARNING SYSTEMS

Title and Source	Level	Description
Tutorgram Teaching Systems ERCE-NE		1A. Blank Cards - 54 pre-punched with answer codes; $6.50. 3 primary colors; plastic and washable. 2A. Pre-school and Kindergarten Language Arts - pictured readiness program of awareness and identification. Price, $8.50. 2B. Pre-school and Kindergarten Language Arts - pictured readiness program requiring identification of colors, letters, numbers, shapes, figures. Price, $8.50. 3A. K and First Grade Language Arts - vocab. program of basic word recognition. Price $8.50. 3B. K and First Grade Mathematics - Basic math concepts. $8.50. 4A. First Grade Language Arts - Identifying beginning and ending consonant sounds and initial consonant blends. $8.50. 4B. First Grade Science - Pictured program; simple understandings of plants, animals and earth; questions related to simple machines and importance of sun to life on earth. $8.50. 5A. Re-inforcement of Understanding Related to Home, Neighborhood School - Community helpers and services they perform emphasized. $8.50 6A. Second grade language arts - Reinforces understandings rhyming elements, antonyms and synonyms. Price $8.50 6B. Second grade mathematics - reinforcement and drill of math concepts in computation, math sentences, expansion of kindergarten and first grade math. Price, $8.50 6C. Second Grade Science - Focuses on earth and its place in universe; questions relating to needs of living things stressed. Price, $8.50

MATHEMATICS

Title and Source	Level	Description
Math for Primary Grades Jam Handy School Services, Inc.	Pri.	8 filmstrips acquainting children with the number system and its importance in solving everyday problems. (Includes some of the new approaches to teaching math). @$46.00/set.
Primary Math Series BFA Educational Media	EJS	Thirty super 8 silent film loops; examples: (1) Number Meaning - Zero to Ten, (2) Long, Longer, Longest, (3) How much? (4) One-half, (5) Counting to One Hundred by Two's, (6) Weight is Not..., (7) What Time? (8) Ounces and Pounds, (9) Minuends, (10) Subtrahends and (11) Remainders. Each loop $20.00. Entire Series, $600.00.
Arithmetic, Step by Step, (Kit A) The Continental Press, Inc.	Readiness Grade 3	Designed for remedial pupils and pupils with learning problems. Lessons programmed into small steps. Complete set of liquid duplicating masters in portable box with dividers for levels. Includes: Ten units (counting, sets, addition, subtraction, relations, money, time, measures, calendar, goemetric shapes); 3 levels for each unit, pretest for each unit, teacher's guide. Individual units $6.50 each; complete set, $59.50.

MATHEMATICS

Title and Source	Level	Description
Situational Math Knowledge Aid		Series of animated cartoons designed to assist students of limited reading ability with techniques of mathematical problem solving. The program emphasizes recognition of certain patterns that occur in word problems and teaches the appropriate response to those patterns. Contents: 6 sound filmstrips, scope and sequence chart, teacher's guide. Each filmstrip is a "detective story" with a problem posed and solved by the detective and his dog-assistant. Skills to be developed are adequately defined in terms of behavioral objectives. Program is supplementary, reviewing basic computational skills. Should be motivating to older as well as younger children. Complete program, $329.95.

SOCIAL STUDIES

Title and Source	Level	Description
Basic Lessons for Retard Children Workbook II John Day Company	Elem.	A workbook on social skills, self-help skills and voc. skills, including activities about health, courtesy, safety, kindness, dressing, washing, etc. $1.20/workbook.
Self Concept-Kit III Mafex Associates, Inc.	Elem.	2 guides, 2 transparencies with work sheets, 3 charts, 150 body parts puzzle, 35 manuals. Kit designed to develop better self-awareness with activities correlated with the home and family, school, citizenship and health. @$25.00.

READING

Title and Source	Level	Description
Distar Reading I SRA	Pri.	Four presentation books, guide, 2 pronunciation records, take-home sheets, 10 student workbooks, acetate page protector, in kit form. First half of a 2-year program designed to teach program concentrates on basic word-attack skills. Teacher's Kit, $50.00. Student's Kit, $67.00.
Distar Reading II SRA	Pri.	Four presentation books, guide, 3 decks of cards, acetate page protector, take-home sheets, Recycling Book, in kit form. Second half of a 2-year program designed to teach children basic word decoding skills; reading vocabulary is expanded, and comprehension skills are emphasized. Teacher's Kit, $75.00. Student set of 10, $110.00. Take-home sheets.
Manipulative Books Bowmar	Pri.	Eight books, toy, and guide. A kinesthetic-tactile approach to reading designed to actively involve children by providing tactile and manipulative devices. Content of books emphasizes student's feelings about themselves and their environment. Complete set, $31.60.
Michigan Language Program Learning Research Associates, Inc.	Pri.	Teacher's manuals, readers, workbooks, word attack and comprehension cassettes, 2 sets of listening cassettes, 75 transparencies. A complete program in listening, reading, writing, and speaking, geared toward self instruction by the student. (May be used by lower inter, and ESL students.) Complete class set, $645.95.

READING

Title and Source	Level	Description
Mott Basic Language Programs-Semi-Programmed and Comprehension Series Allied Educational Council	Int. and Up	Fifteen books, 2 manuals, semi-programmed series of reading workbooks with reading workbooks with reading readiness, phonics, endings, comparatives materials, stories, lessons, word studies, and reading materials with programmed comprehension excercises. $29.00.
Edmark Reading Program Edmark Associates		Complete program teaching 150 word vocabulary and providing varied student activities to use reading skills and develop comprehension and language. Manipulative tasks of increasing complexity. Student involvement, variety, reading for pleasure. Four kinds of carefully sequenced activities used in 227 lessons. Includes: word recognition lessons, direction books (39 books of increasing complexity), picture/phrase matching, storybook, pretests and review tests, prereading unit. Complete program, $360.00.
Large Parquetry and Patterns Ideal	All	Sixteen plastic laminated cards on which are printed colorful designs in graduated difficulty. Also 156 pieces in 8 colors made of rubber-like "Tactilmat". Designed to develop higher levels of manipulative skills, visual memory and visual and shape discrimination. $7.00.

VISUAL TRAINING

Title and Source	Level	Description
Dubnoff Program 1 - Level 1, Teaching Resources		4 sections comprising 112 sets of exercises with student worksheets, and supplementary activities, 7 Good Work certificates, acetate protector, 8 crayons and guide. Sequential perceptual-motor exercises designed to develop basic perceptual skills for reading and writing readiness. @$14.00/kit.
Dubnoff Program 1 - Level 2, Teaching Resources		4 sections comprising 60 sets of exercises with supplementary procedures and activities. 120 student worksheets, acetate protector, 8 crayons, and guide. Experiential perceptual-motor exercises designed to develop cognitive skills for reading and writing readiness. @$12.00/kit.
Dubnoff School Program 2 Teaching Resources		Guide, 3 dup. masters, pattern board, 135 rubber bands, 160 pattern cards, 5 charts, 25 brass pegs in kit form. Directional-spatial-pattern board exercises to develop perceptual and manipulative skills for reading, math and writing readiness. @$29.00/kit.
Frostig Developmental Program: Pictures and Patterns, Follett Educational Corporation	Pre-School Early Elem.	Programmed Training Guide, 3 students' books, 3 teachers' guides, acetate overlays. Each book contains paper and crayon exercises (total of 320) arranged so that they sequentially develop visual perceptual skills. Guides give specific directions for physical exercises, three-dimensional activities, coloring exercises; areas of Vis. Perceptual skills discussed and developed in guides include: visual-motor coordination; figure-ground perception; perceptual constancy; position in space; and spatial relationships. 7 books/ @$11.61. 15 Overlays/@$3.57.

VISUAL TRAINING

Title and Source	Level	Description
Sequential Picture Cards, IV Developmental Learning Materials		28 card set (seven 4-card series), 5" x 6 1/2", sequential. Subjects such as ecology, teenage activity, space travel. Instructions and teaching suggestions included. $2.50.
Association Picture Cards, I & II Developmental Learning Materials		30 cards per set of illustrated objects to help students learn to re-group individual terms into basic categories with 5 different cards in each. Set 1: groups of houses, chairs, tables, lamps, trees, and clocks; Set 2: trucks, birds, cars, dogs, boats, hats. $1.00/set
Association Picture Cards, III Developmental Learning Materials		30 oversize picture cards (4 objects on each card, one of which not in same category as other three), Instructions included: $3.00.
Sequential Picture Cards, I Developmental Learning Materials		5 sets of 6 cards each. Student must arrange according to activity sequence: (1) boy riding bike, (2) girl preparing to go to sleep, (3) going to school, (4) a mother's daily work, (5) playing outside. Instructions. $1.00.
Sequential Picture Cards, III Developmental Learning Materials		5 groups of 6 cards; designed to develop sequential thinking in terms of seasonal and 24-hour change, growth, production and daily activity. Most challenging and comprehensive of all three card series offered. $3.00.

VENDORS

ALLIED EDUCATIONAL COUNCIL
Distribution Center, Box 78
Gallien, Michigan 49113

AMERICAN GUIDANCE SERVICE, INC.
Publishers Building
Circle Pines, Minnesota

ATHENEUM PUBLISHERS
122 East 42 Street
New York, New York 10017

BENEFIC PRESS
10300 West Roosevelt
Westchester, Ill. 60153

BFA EDUCATIONAL MEDIA
2211 Michigan Avenue
Santa Monica, Calif. 90404

BORG-WARNER EDUCATIONAL SYSTEMS
c/o H.B. Educational Systems, Inc.
21 Audio Lane
New Haven, CT. 06519

BOWMAR
622 Rodier Drive
Glendale, Calif. 91201

JOHN DAY COMPANY
c/o Steck-Vaughn
P.O. Box 2028
Austin, Texas 78767

DEVELOPMENTAL LEARNING MATERIALS
7440 N. Natchez Avenue
Niles, Ill. 60648

EDMARK ASSOCIATES
655 South Orcas Street
Seattle, Washington 98108

EDUTEC INC.
Nottingham, Penn.

ELECTRONIC FUTURES, INC.
57 Dodge Avenue
N. Haven, CT. 06473

ERCA-NE
1990 Union Lake Road
Union Lake, Michigan 48085

FOLLET EDUCATIONAL CORP.
1010 West Washington Blvd.
Chicago, Ill.

GENERAL ELECTRIC/PROJECT LIFE
Instructional Industries, Inc.
Executive Park
Ballston Lake, New York 12019

IDEAL
L.L. Weans Co., Inc.
33 Seabro Avenue
Amityville, New York 11701

JAM HANDY SCHOOL SERVICES
c/o Scott Educational Division
Customer Service Department
Holyoke, Mass. 01040

KNOWLEDGE AID
8220 North Austin Avenue
Morton Grove, Illinois 60653

LEARNING RESEARCH ASSOCIATES, INC.
1501 Broadway
New York, New York

MAFEX ASSOCIATES, INC.
111 Barron Ave., Box 518
Johnstown, PA. 15906

MCGRAW-HILL/EARLY LEARNING
Paoli, PA. 19301

MIDWEST REGIONAL MEDIA CENTER
FOR THE DEAF
Nebraska Hall 426
Lincoln, Nebraska 68508

MILLER-BRADY PRODUCTIONS, INC.
342 Madison Avenue
New York, New York 10017

NORTHEAST REGIONAL MEDIA
CENTER FOR THE DEAF
University of Massachusetts
Amherst, Massachusetts

J.A. PRESTON CORPORATION
71 5th Avenue
New York, New York 10003

SCIENCE RESEARCH ASSOCIATES
259 East Erie Street
Chicago, Illinois 60611

SOCIETY FOR VISUAL EDUCATION, INC.
1345 Diversey Parkway
Chicago, Illinois 60614

TEACHING RESOURCES CORP.
100 Boylston Street
Boston, Mass. 02116

JOHN TRACY CLINIC
806 West Adams Blvd.
Los Angeles, Calif. 90007

List of Instructions

Duplicate each transparency master by using a thermal copy machine. A transparency marker may be used on the reverse side of the transparency to color in certain sections. The diazo process may also be used to duplicate each transparency master.

At the bottom of each transparency master appears a number or numbers in combination with a letter. The number corresponds to a section of the text. The number in combination with the markings O.L. indicate the order of the overlays. The number in combination with a letter or letters indicate that these individual masters should be joined together to form the transparency.

BEST COPY AVAILABLE

Transparency Masters

THE CASCADE SYSTEM OF EDUCATION SERVICE

Level 1	Exceptional children in regular classes, with or without supportive services
Level 2	Regular class attendance plus supplementary instructional services
Level 3	Part-time special class
Level 4	Full-time special class
Level 5	Special stations +
Level 6	Homebound
Level 7	Instruction in hospital, residential, or total care settings

Move this way only as far as necessary

Return this way as rapidly as feasible

Assignment of pupils to settings governed by the school system

Assignment of individuals to the settings governed primarily by health, correctional, welfare, or other agencies

+Special schools in public system

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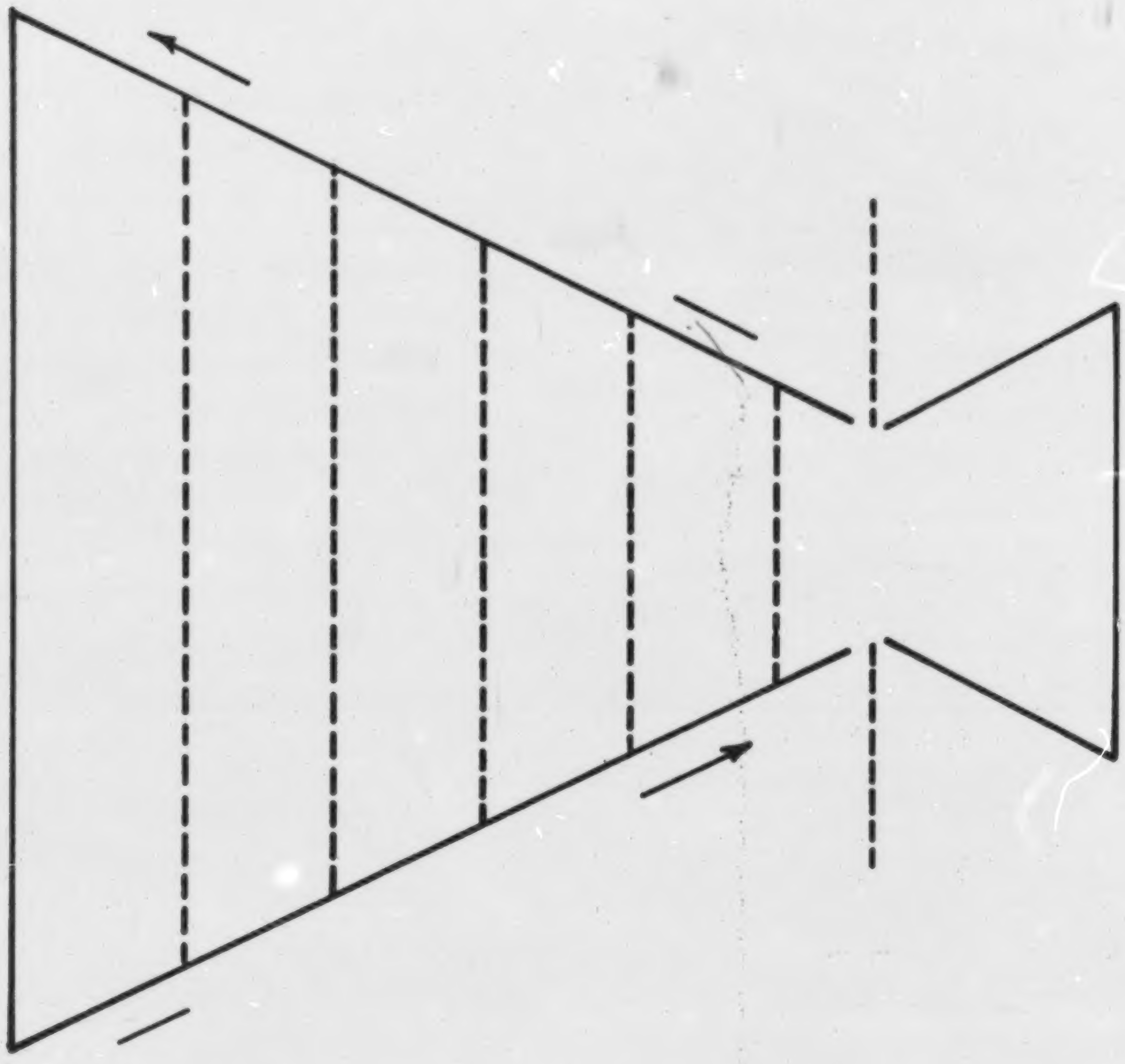
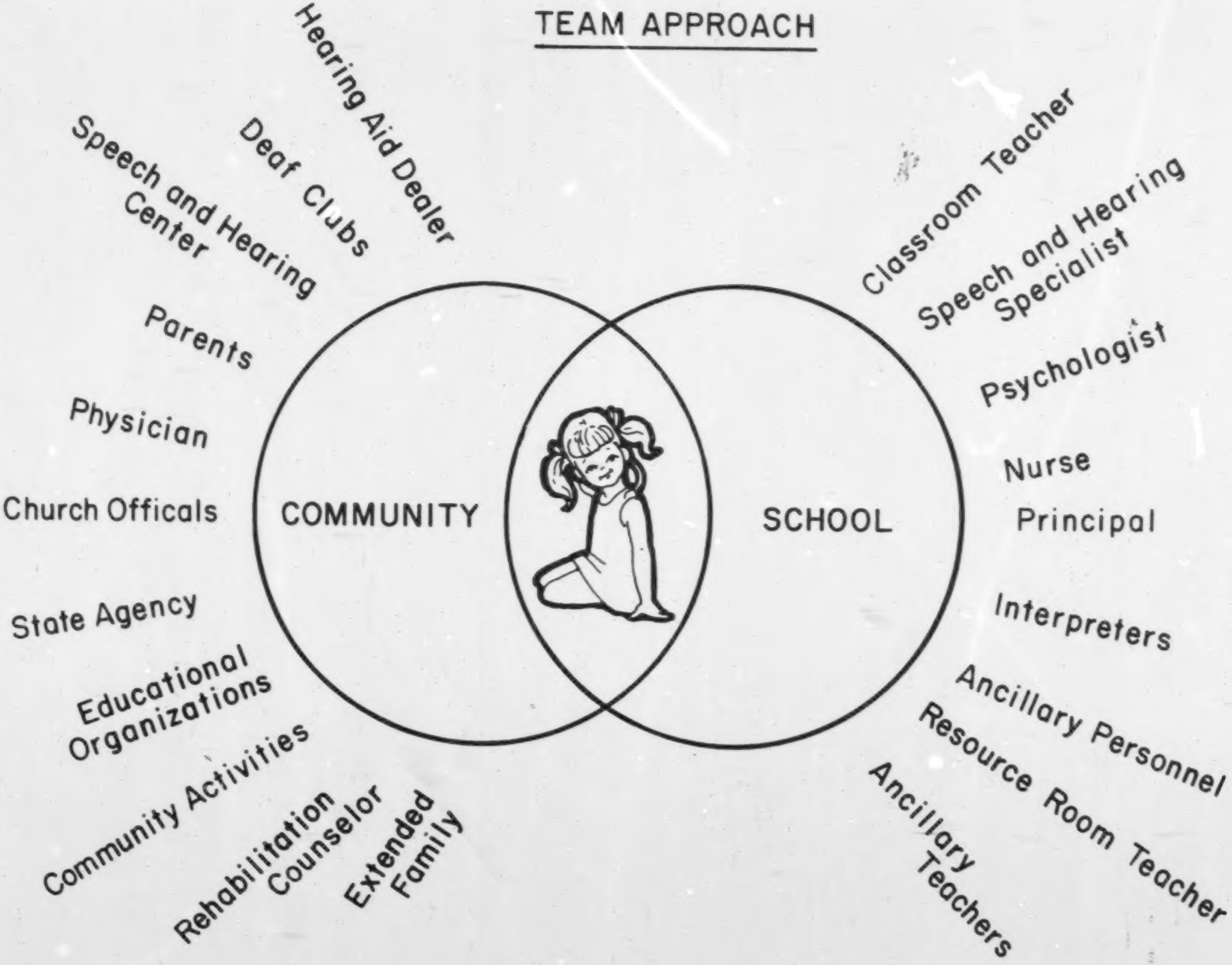
the Council for Exceptional Children, March 1973
from "Bulletin", Exceptional Children, Vol. 39, p.495

1-A-Black



1-B · Red

TEAM APPROACH



Hearing Aid Dealer
Deaf Clubs
Speech and Hearing Center
Parents
Physician
Church Officals
State Agency
Educational Organizations
Community Activities
Rehabilitation Counselor
Extended Family

COMMUNITY

SCHOOL

Classroom Teacher
Speech and Hearing Specialist
Psychologist
Nurse
Principal
Interpreters
Ancillary Personnel
Resource Room Teacher
Ancillary Teachers

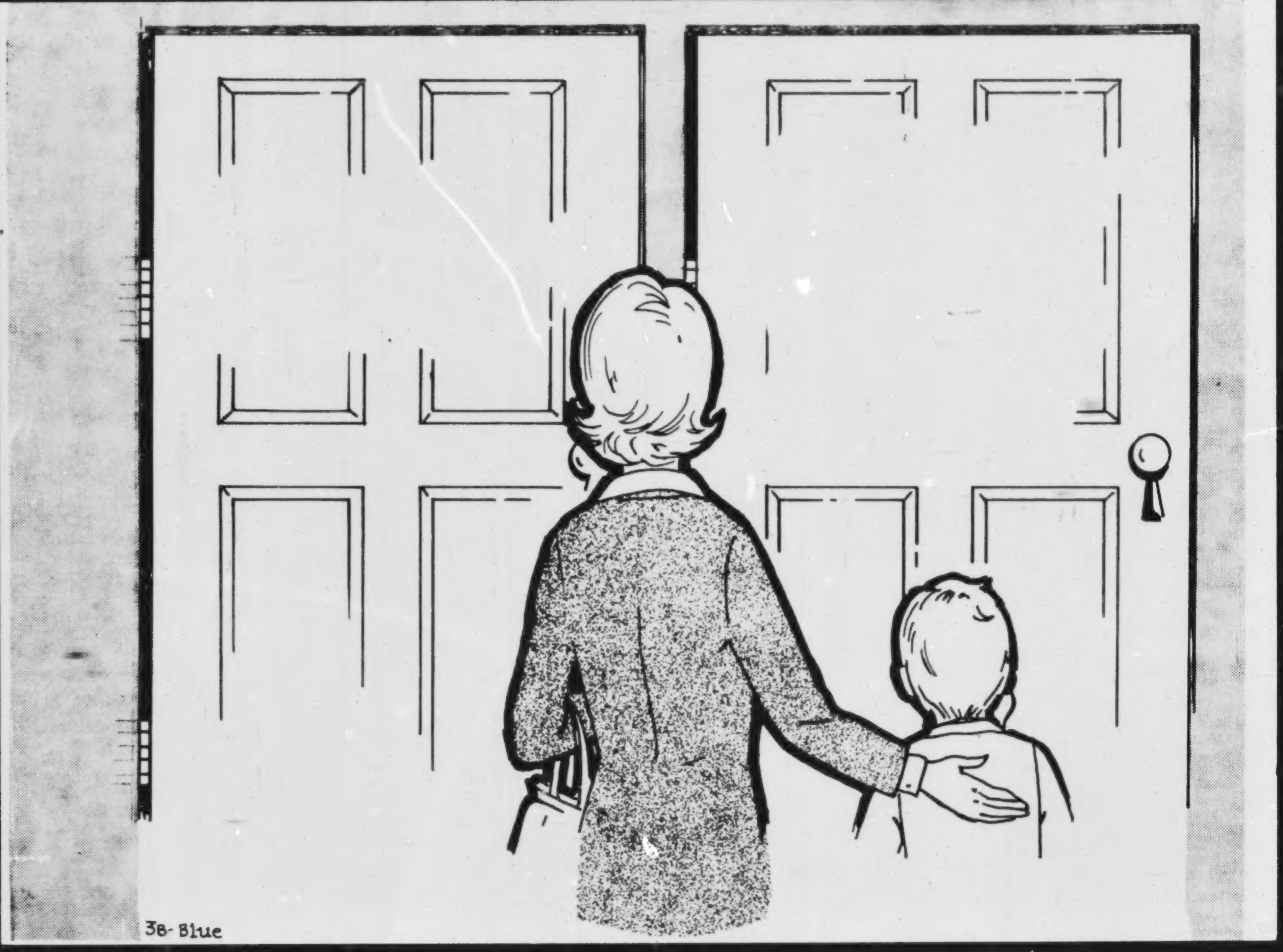
2-Base - Black

OLD ALTERNATIVES

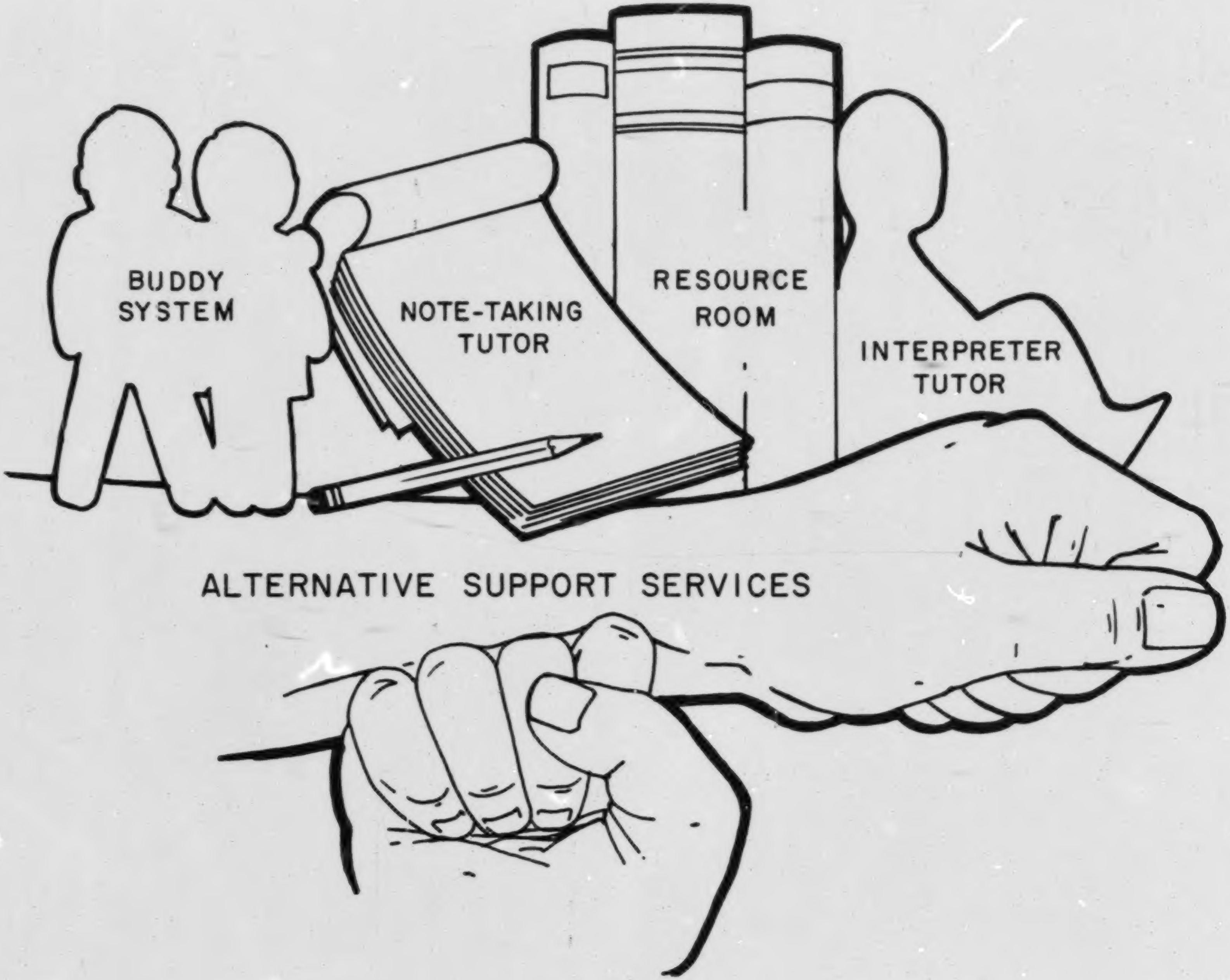
- Residential School for the Deaf
- Day Classes for the Deaf
- Self-Contained Day Classes

NEW ALTERNATIVES

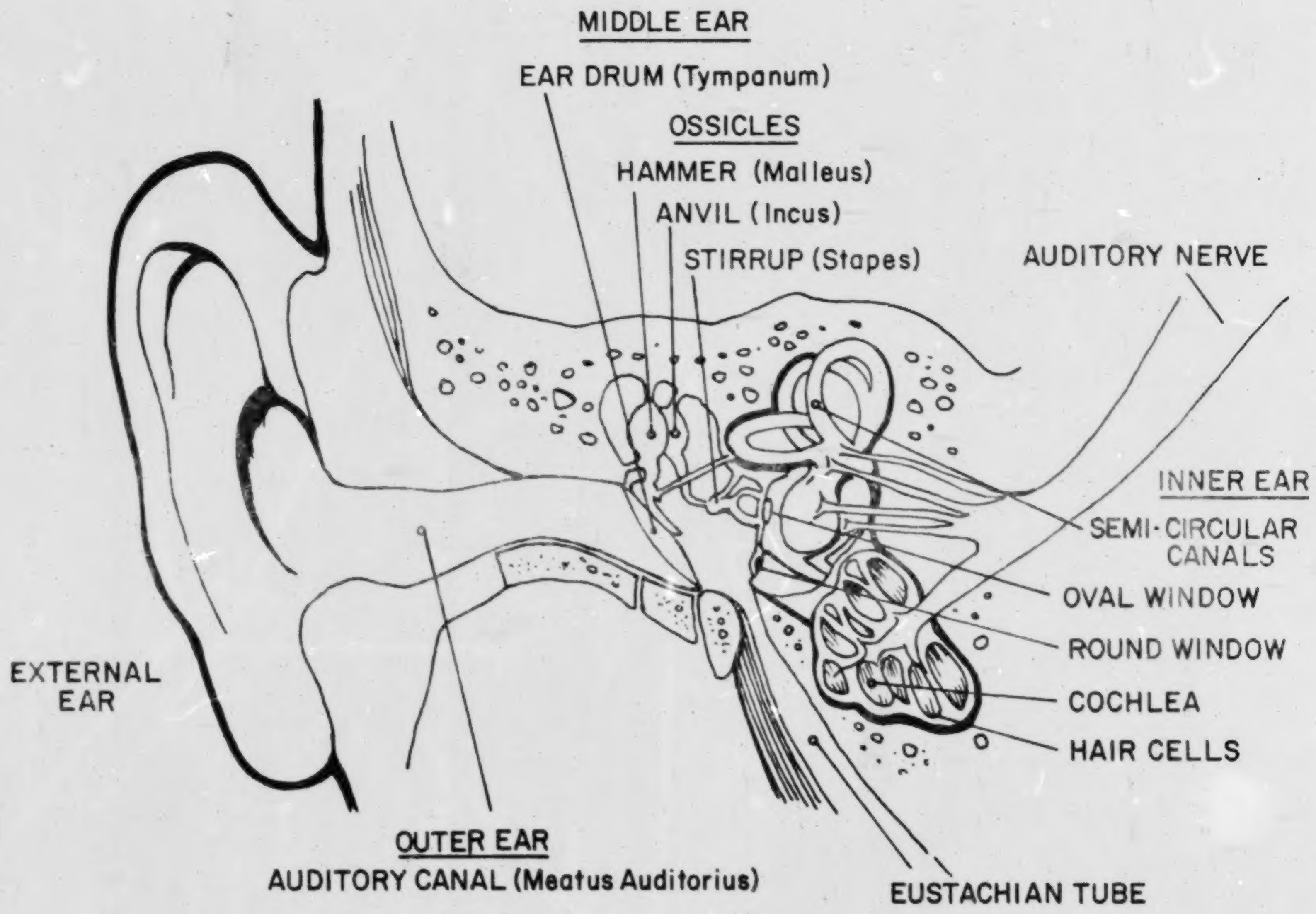
- Full Integration
  - Non-special Programming
  - Special Programming
- Partial Integration
  - Traditional
  - Individual non-academic
  - Group non-academic
  - Informal Integration
  - Reverse Integration



3B-Blue


BUDDY SYSTEM
NOTE-TAKING TUTOR
RESOURCE ROOM
INTERPRETER TUTOR
ALTERNATIVE SUPPORT SERVICES

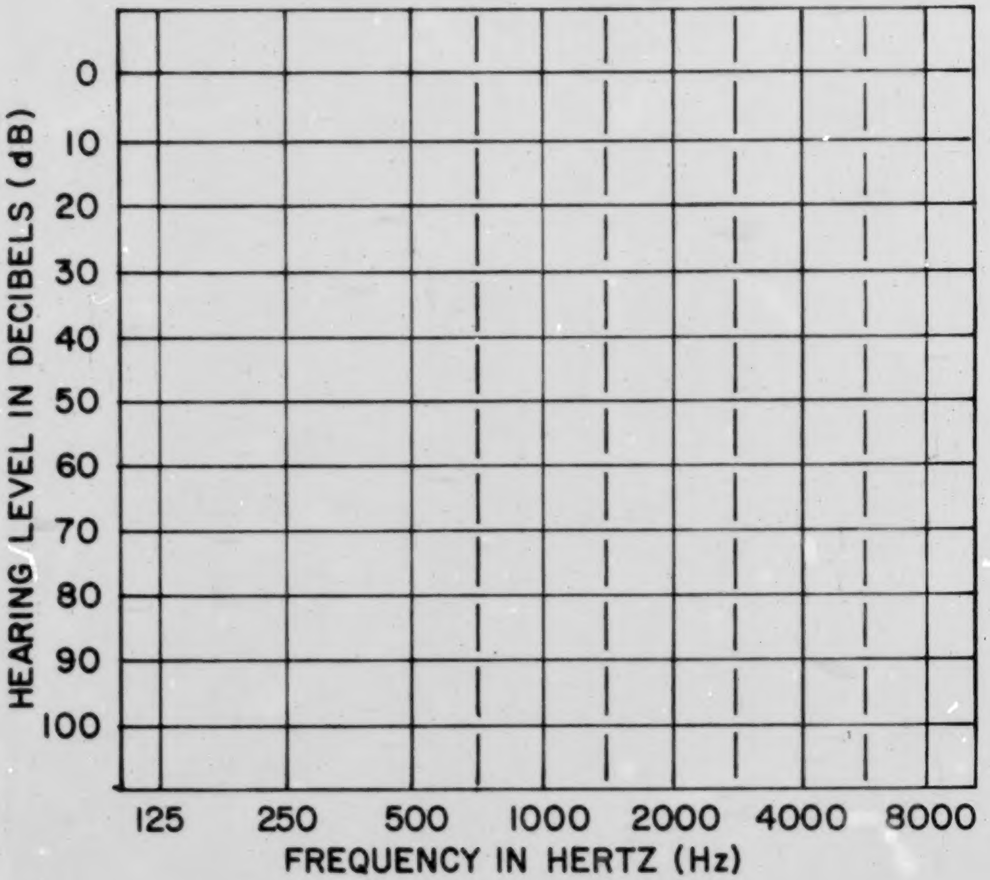
4 Black


MIDDLE EAR
EAR DRUM (Tympanum)
OSSICLES
HAMMER (Malleus)
ANVIL (Incus)
STIRRUP (Stapes)
AUDITORY NERVE
INNER EAR
SEMI-CIRCULAR CANALS
OVAL WINDOW
ROUND WINDOW
COCHLEA
HAIR CELLS
EXTERNAL EAR
OUTER EAR
AUDITORY CANAL (Meatus Auditorius)
EUSTACHIAN TUBE

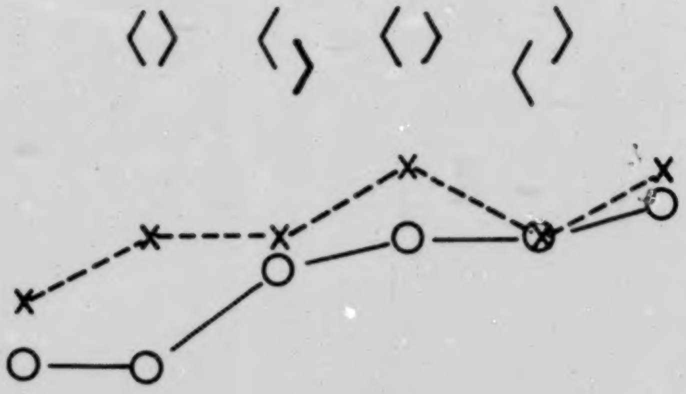
5 Base - Black

AUDIOGRAM

	RIGHT EAR	LEFT EAR
AIR CONDUCTION	○	X
BONE CONDUCTION	〈	〉



6-Base Blank

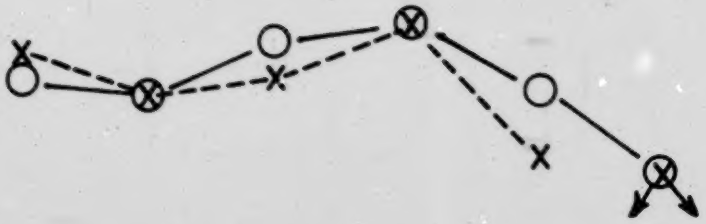


TYPE OF LOSS

CONDUCTIVE

6.0.L #2

NO B.C. THRESHOLDS



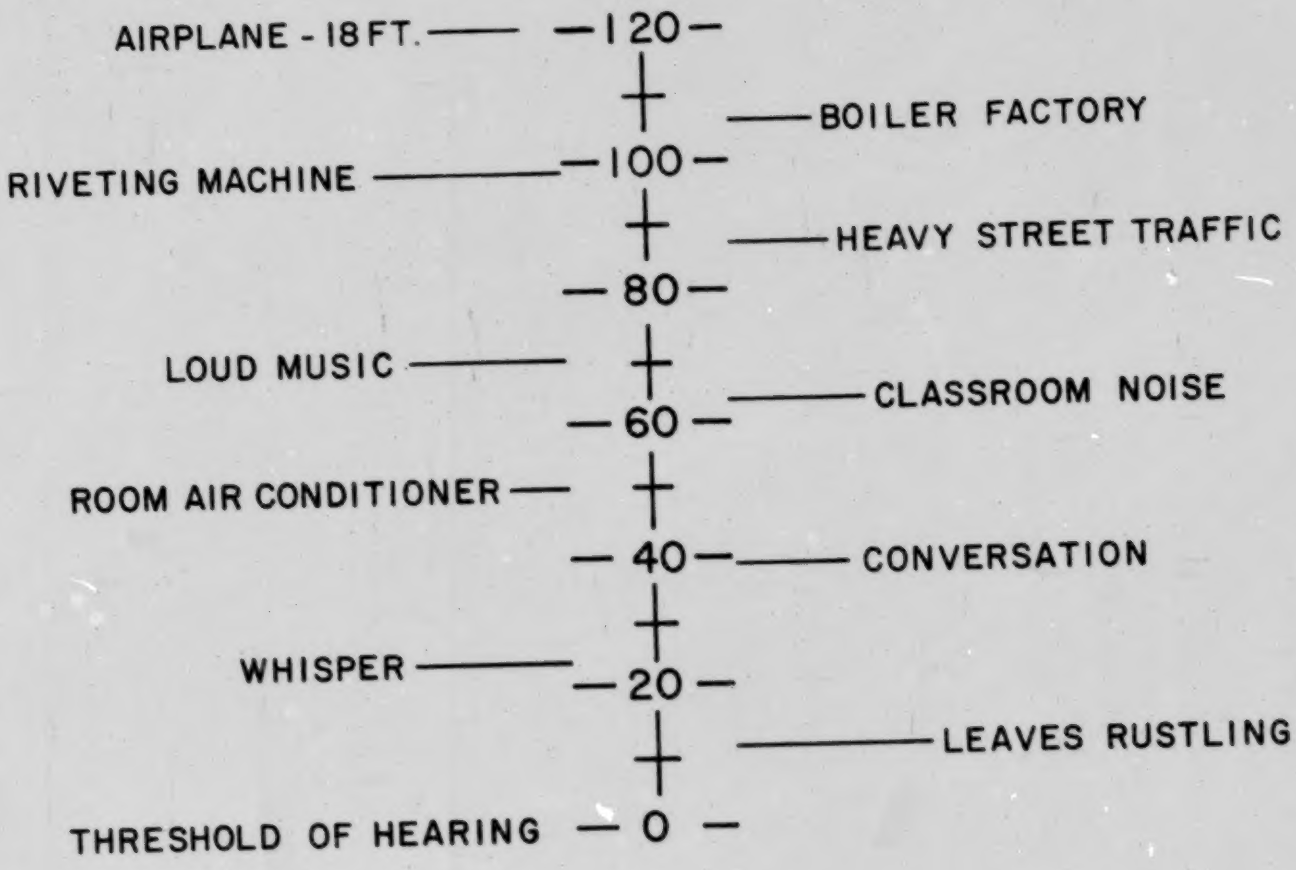
TYPE OF LOSS

SENSORI-NEURAL

1
6D.L#3-

SOUND LEVEL MEASURES

DECIBELS (dB)



AIRPLANE - 18 FT. — 120

BOILER FACTORY

RIVETING MACHINE — 100

HEAVY STREET TRAFFIC

80

LOUD MUSIC

CLASSROOM NOISE

60

ROOM AIR CONDITIONER

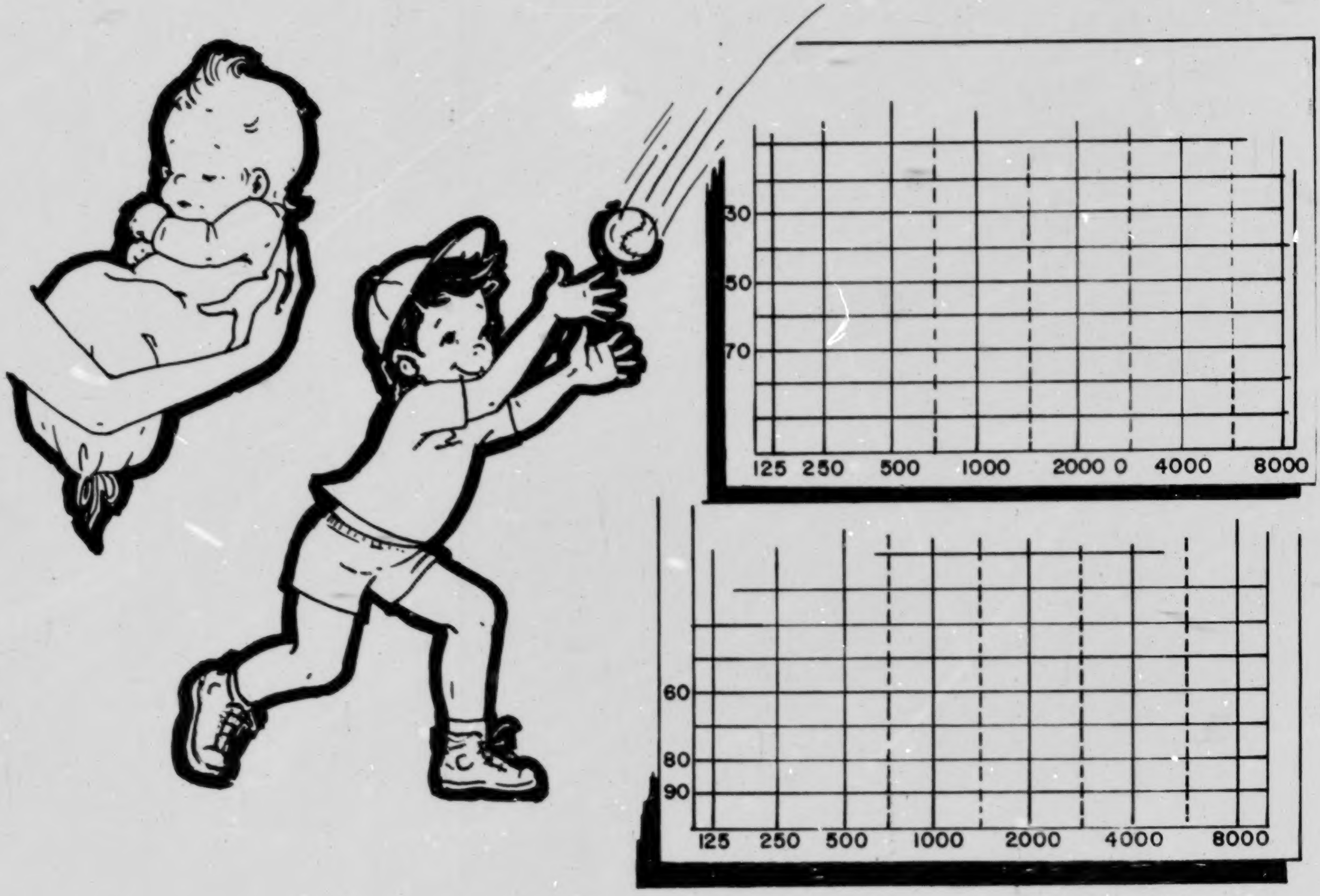
40 — CONVERSATION

WHISPER — 20

LEAVES RUSTLING

THRESHOLD OF HEARING — 0

7. Black


30
50
70
125
250
500
1000
2000 0
4000
8000
60
80
90
125
250
500
1000
2000
4000
8000

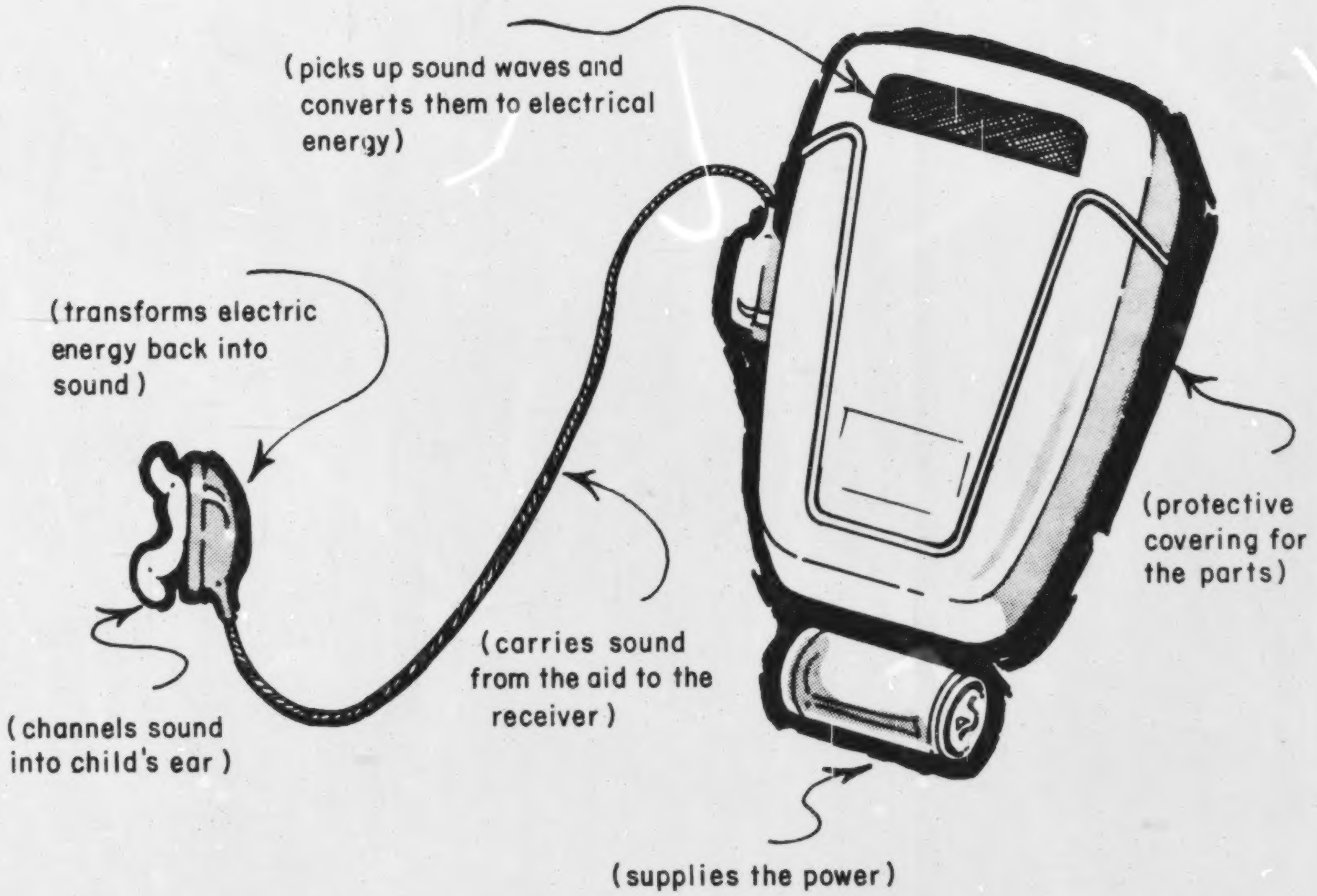
#8 Black Base

AGE OF ONSET

DEGREE OF LOSS

AUDIOGRAM

8 Red Base


(picks up sound waves and converts them to electrical energy)
(transforms electric energy back into sound)
(protective covering for the parts)
(carries sound from the aid to the receiver)
(channels sound into child's ear)
(supplies the power)

9.
Black

HEARING AID

MICROPHONE

RECEIVER

CASE

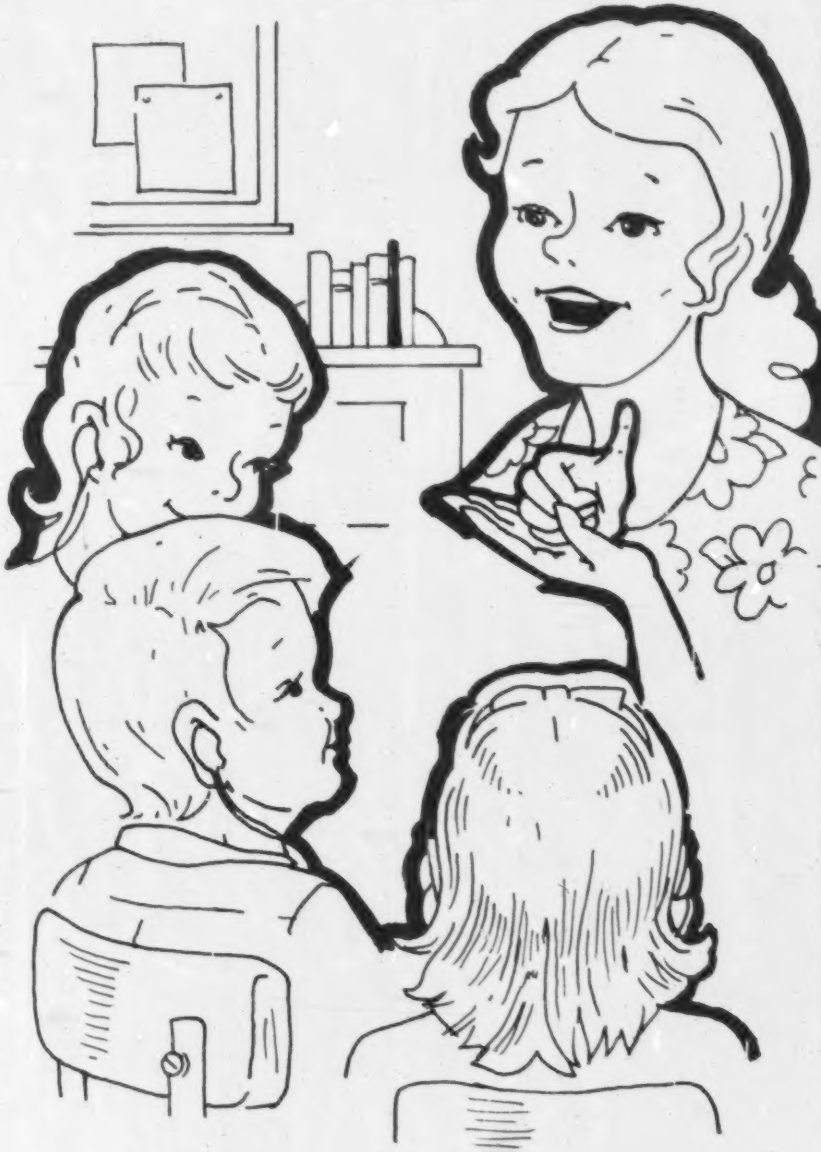
CORD

EARMOLD

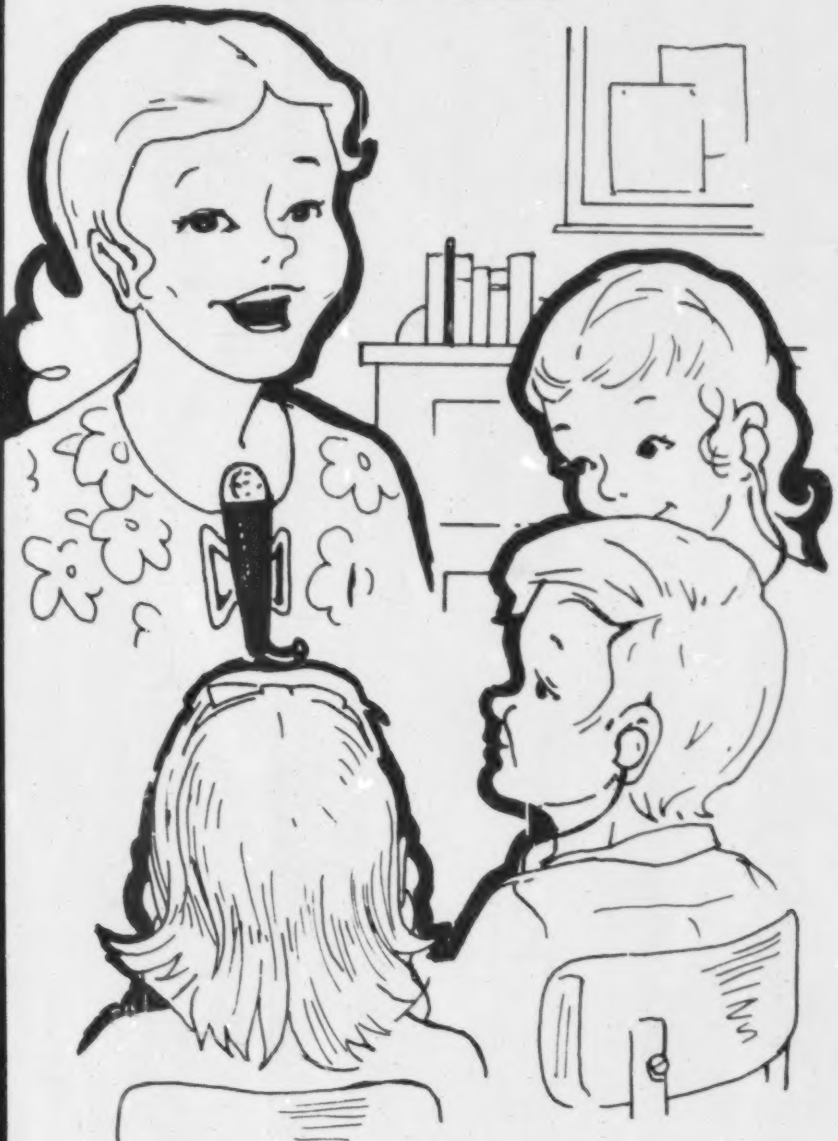
BATTERY

9.
Red

MANUAL AURAL

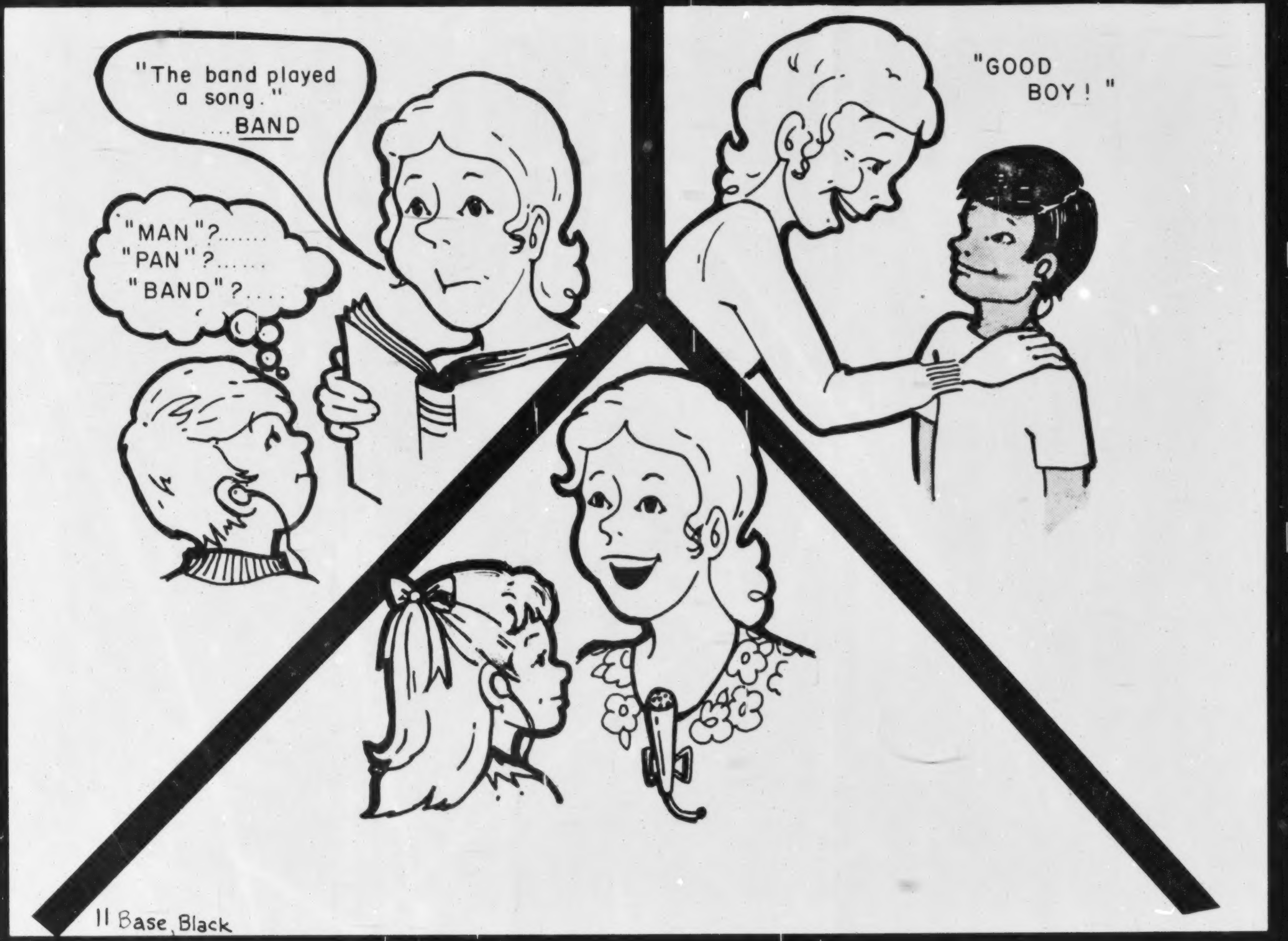


ORAL AURAL



10 Base Black

10 Base - Red


"The band played a song." ....BAND
"MAN"?.......
"PAN"?......
"BAND"?....
"GOOD BOY!"

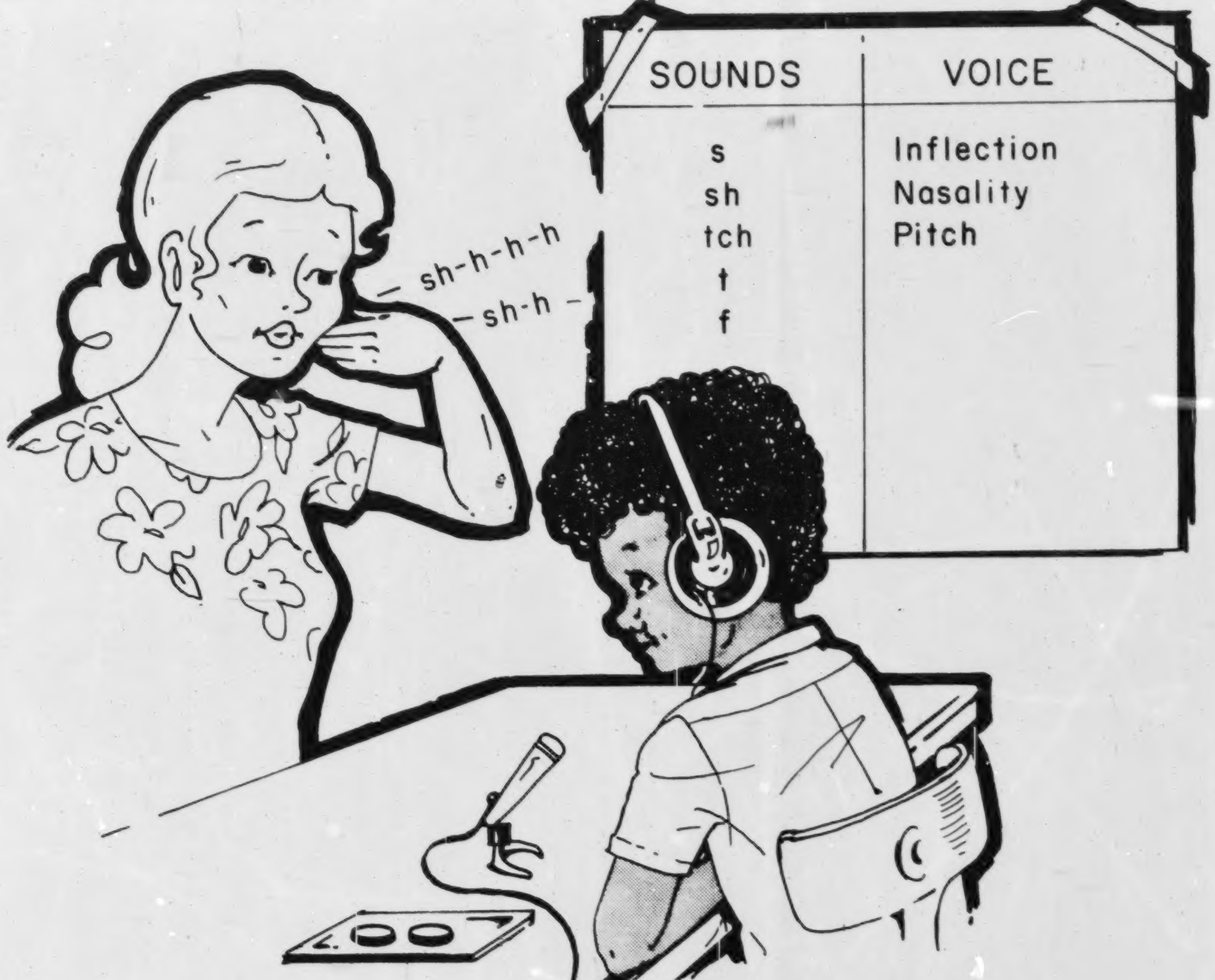
11 Base Black

BODY
LANGUAGE

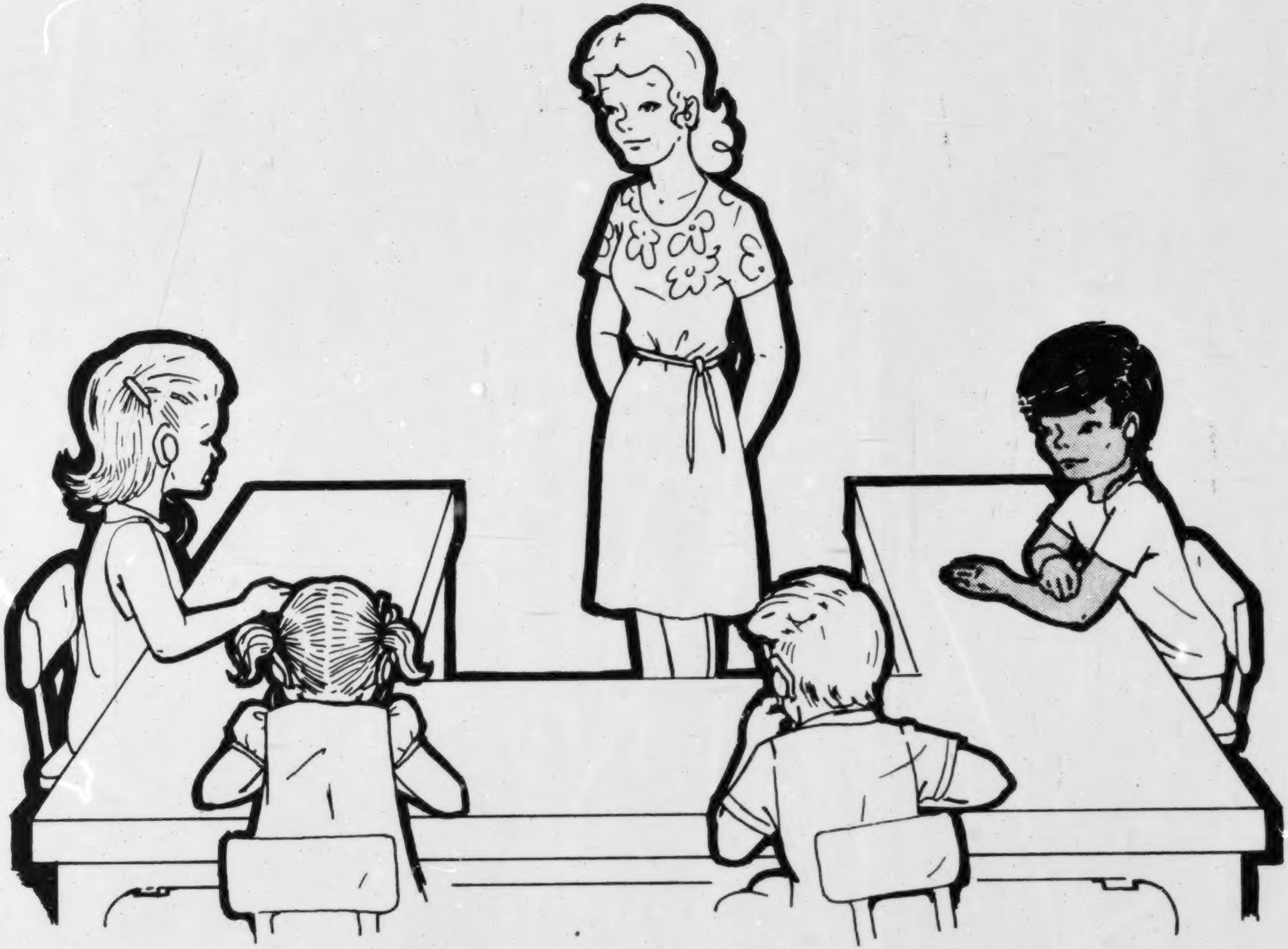
CONSONANT
CONFUSION

AUDITORY
TRAINING

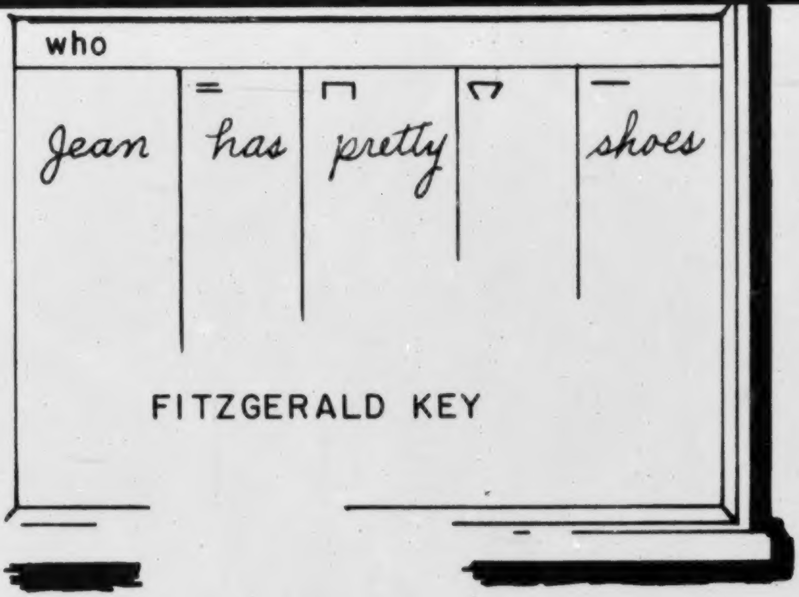
11 Base Red


SOUNDS
s
sh
tch
t
f
VOICE
Inflection
Nasality
Pitch
sh-h-h-h
sh-h

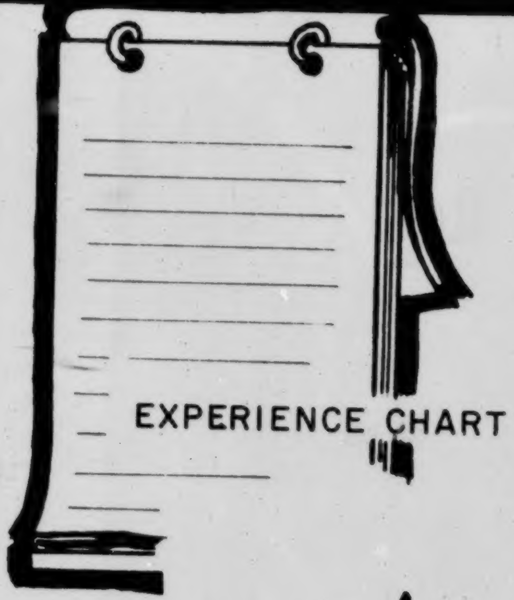
12 Black



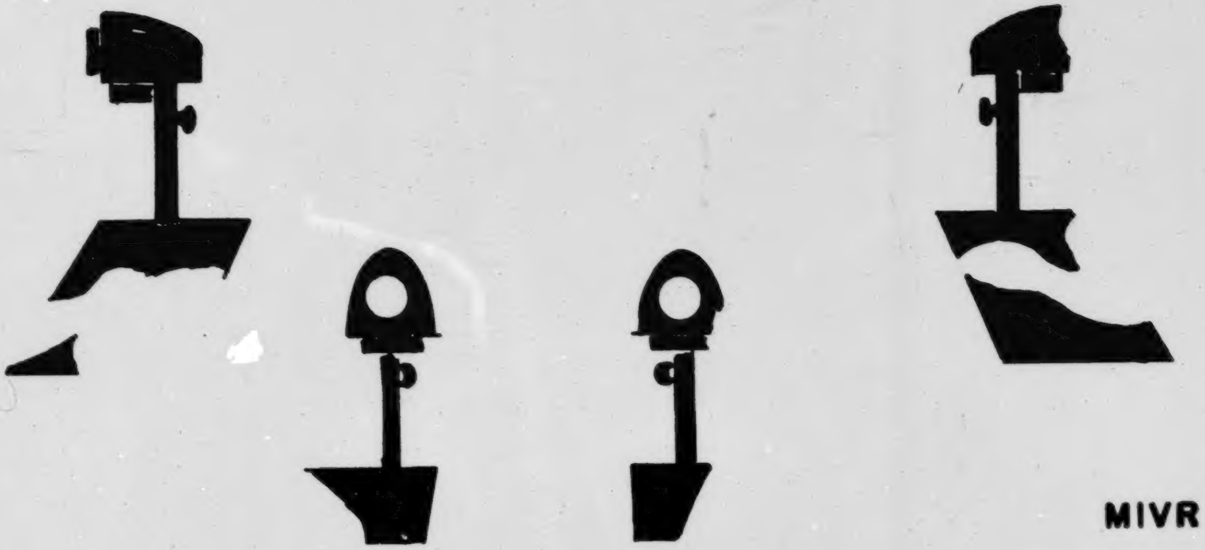
13 Base, Black


who
=
⊓
▽
—
Jean
has
pretty
shoes
FITZGERALD KEY

13 Blue- O.L #1

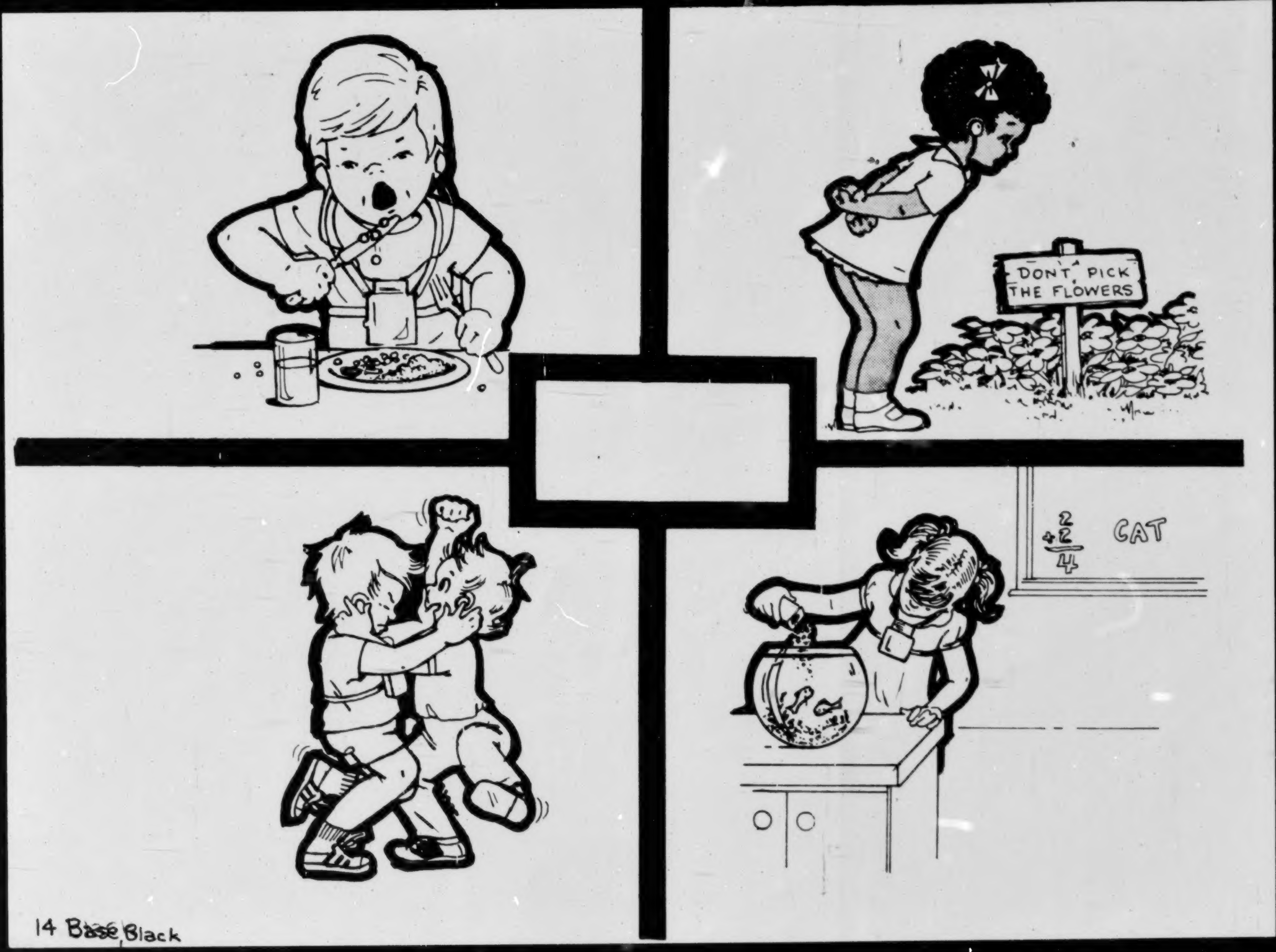

EXPERIENCE CHART

13 Red. O.L#2



MIVR

13 GREEN - O.L #3


DON'T PICK THE FLOWERS
+2
+2
4
CAT

14 ~~Base~~ Black

MANNERS

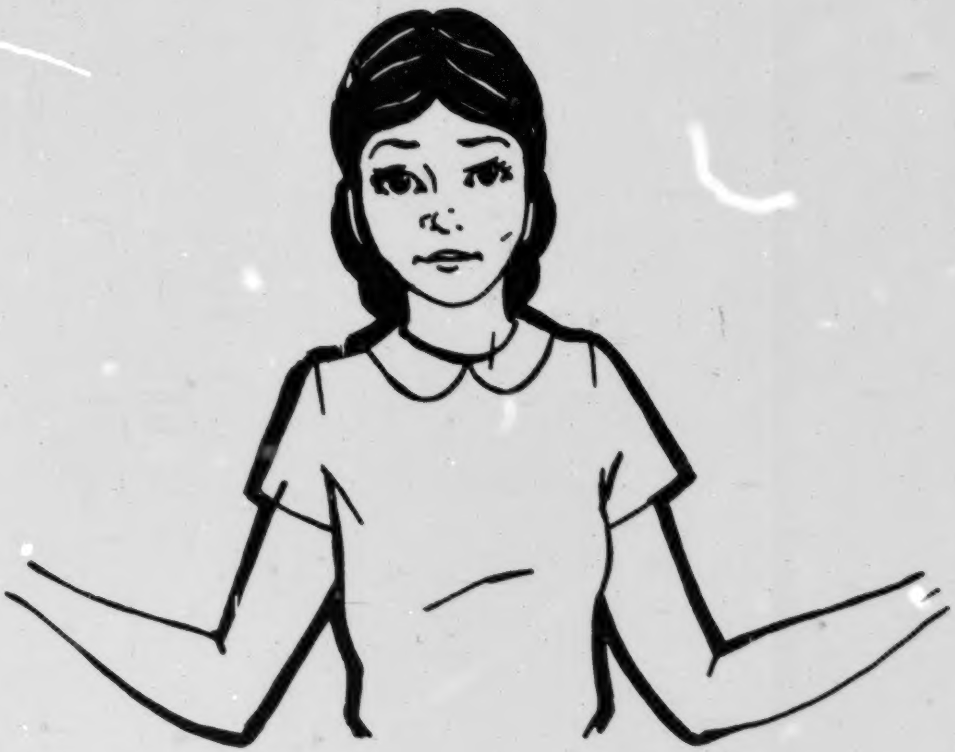
MAKING
CHOICES

SOCIALIZATION
CURRICULUM

BEHAVIOR

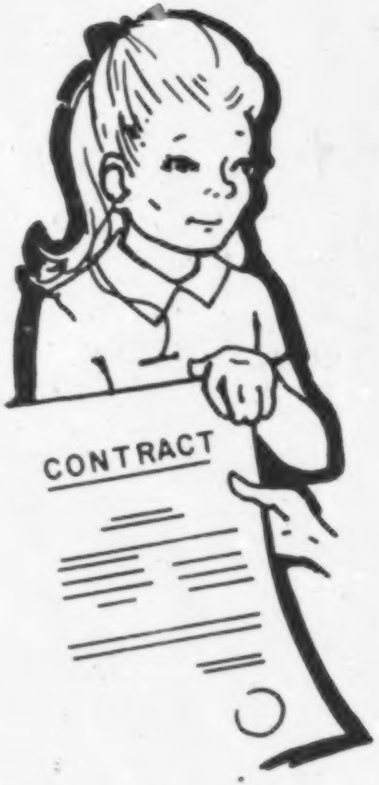
RESPONSIBILITY
IN THE
CLASSROOM

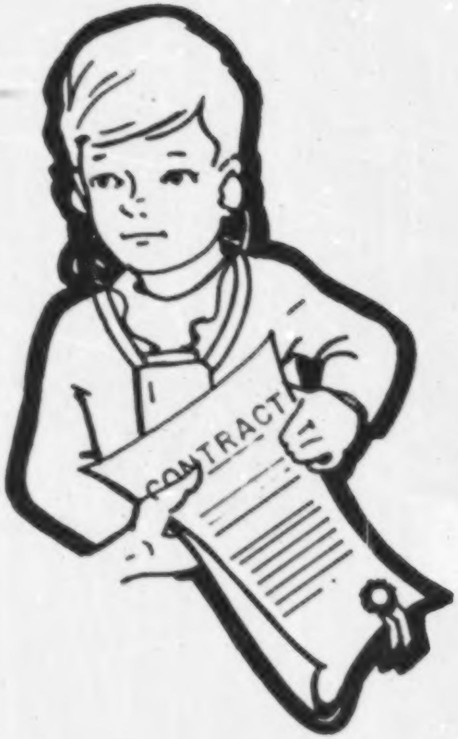
14 Red-Base



15 Base - Black

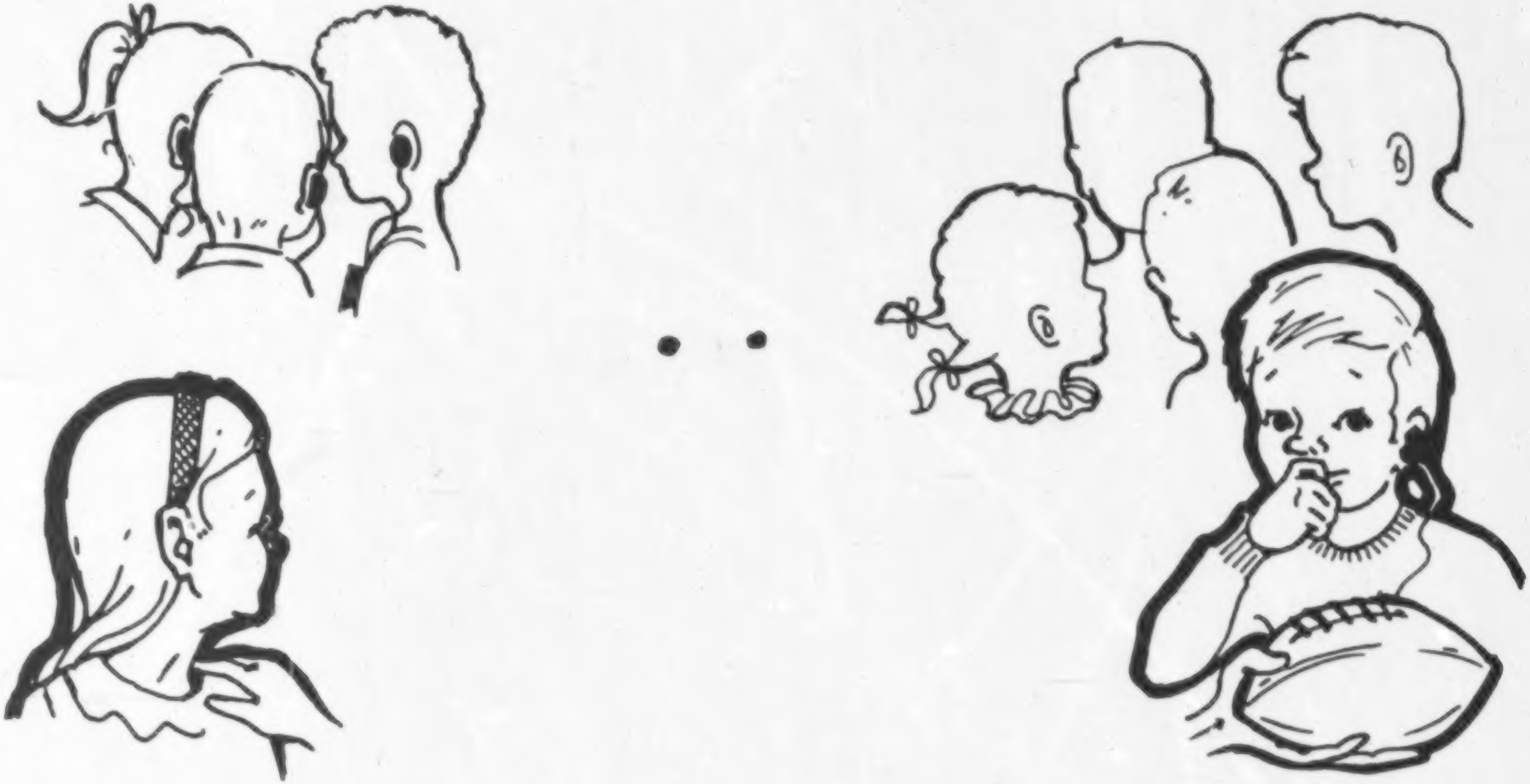
ENCOURAGE RESPONSIBILITY





15 - Black - O.L #1

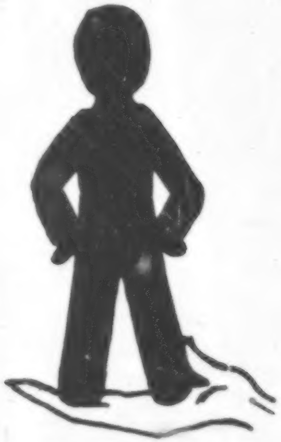
ENCOURAGE INTERGRATION BETWEEN HEARING-IMPAIRED AND HEARING STUDENTS



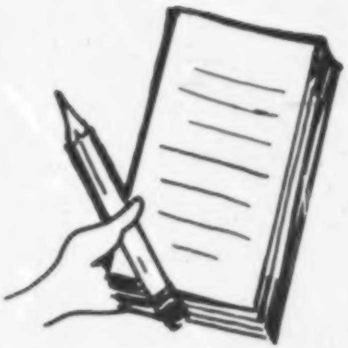
15 Black - O.L # 2

ADMIT WHEN YOU DON'T UNDERSTAND !

INTERPRETER

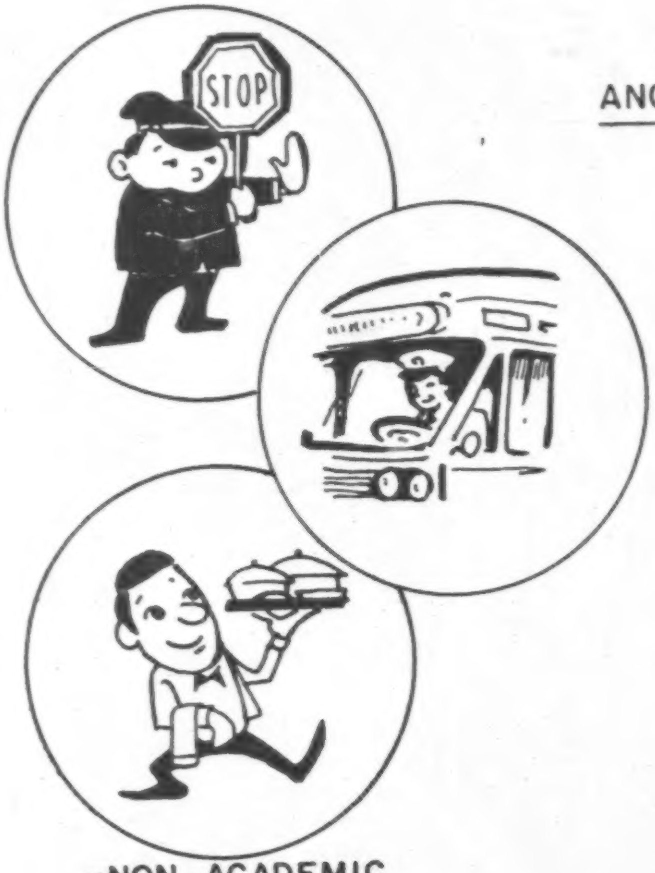


PAD TO WRITE
MESSAGES

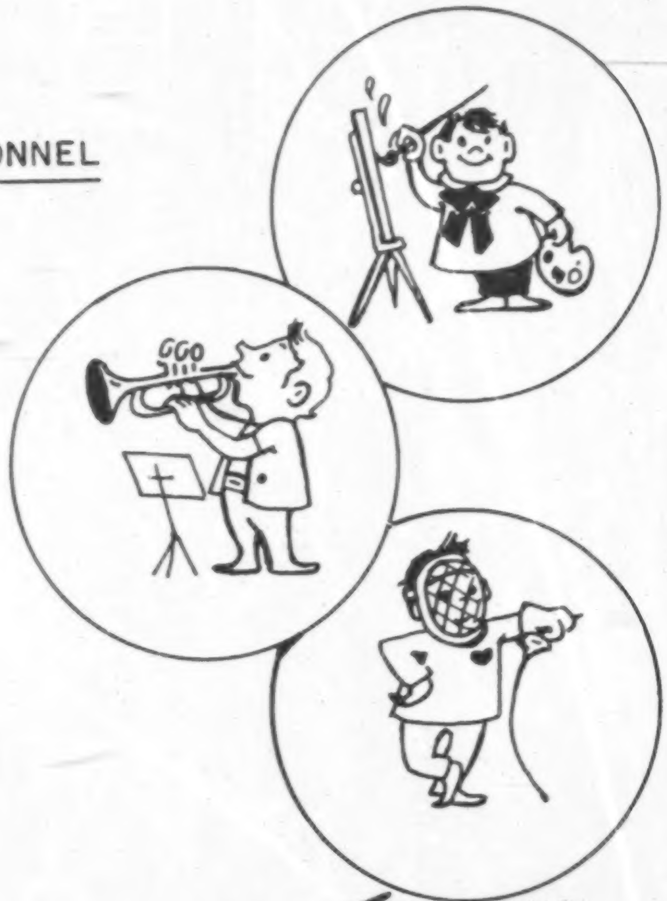


15Black-O.L.#3

ANCILLARY PERSONNEL

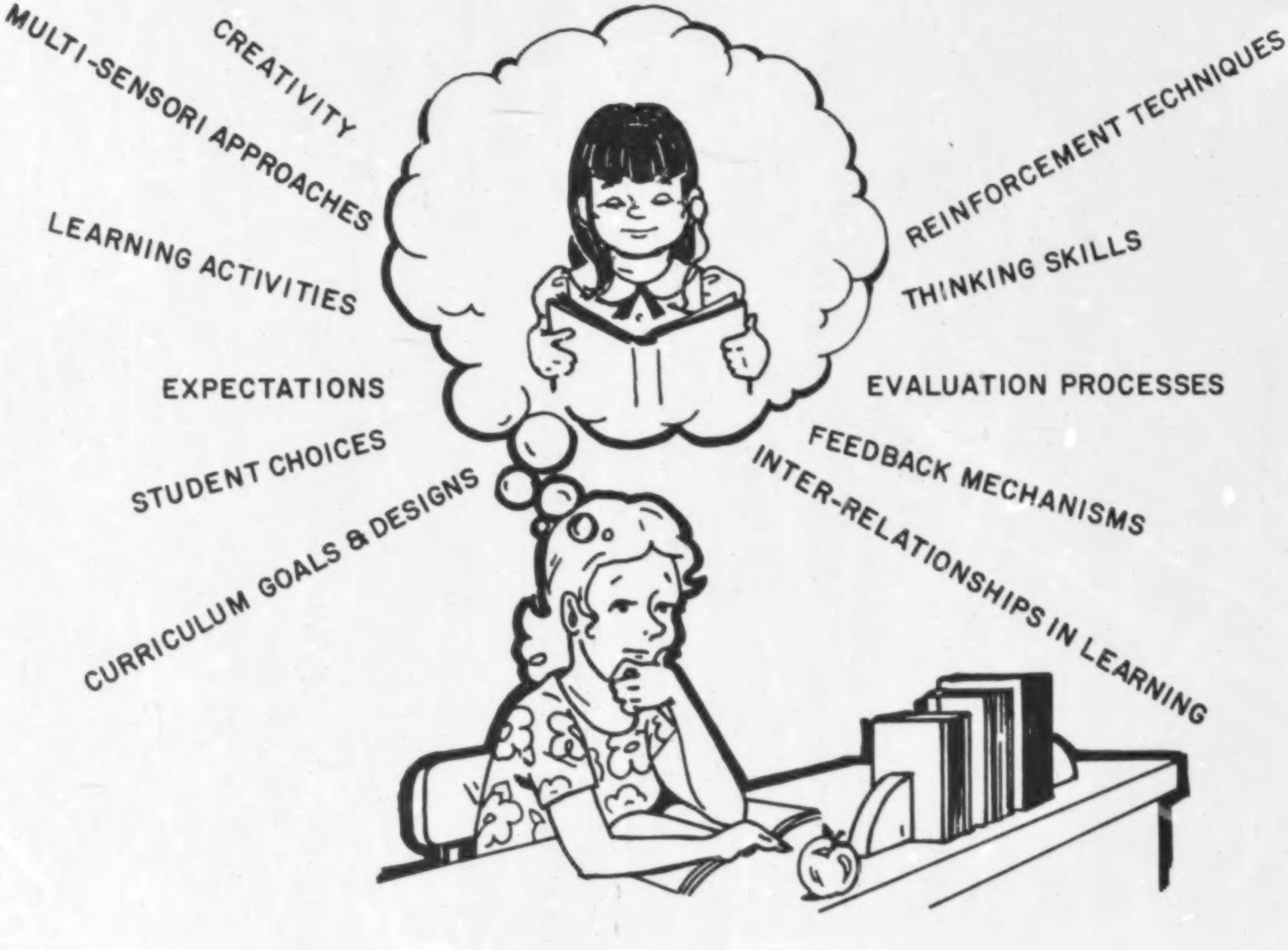


NON-ACADEMIC



ACADEMIC

15 Black - O.L. # 4


CREATIVITY
MULTI-SENSORI APPROACHES
LEARNING ACTIVITIES
EXPECTATIONS
STUDENT CHOICES
CURRICULUM GOALS & DESIGNS
REINFORCEMENT TECHNIQUES
THINKING SKILLS
EVALUATION PROCESSES
FEEDBACK MECHANISMS
INTER-RELATIONSHIPS IN LEARNING

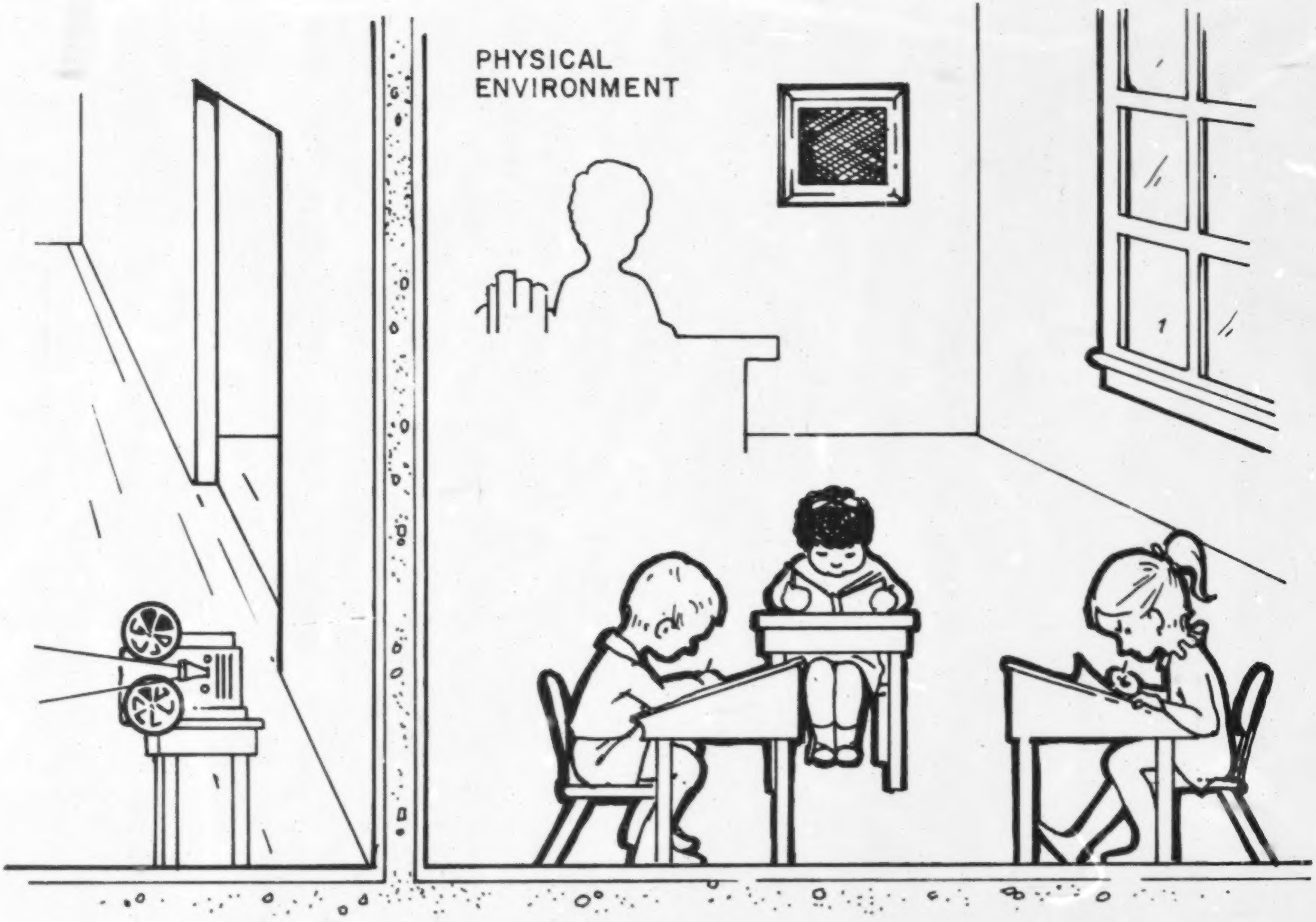
16- 17 Black - Base 16 Black

LANGUAGE ARTS	ORAL-RECEPTIVE (listening)
	ORAL-EXPRESSIVE (speaking)
	WRITTEN-RECEPTIVE (reading)
	WRITTEN-EXPRESSIVE (writing)
	MATHEMATICS

17 Black - Base

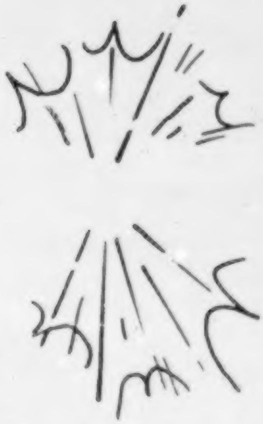
16 Black

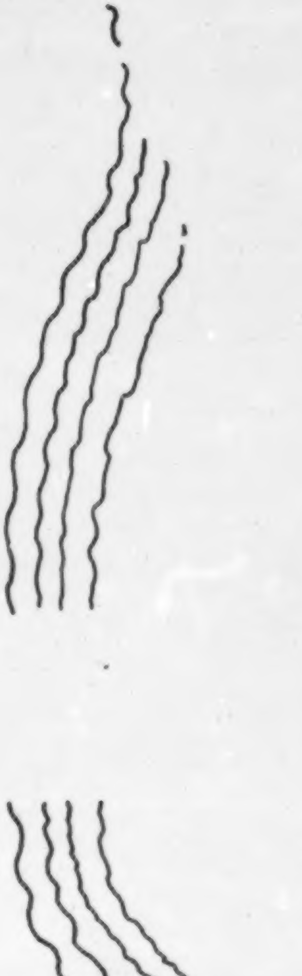
18
Black



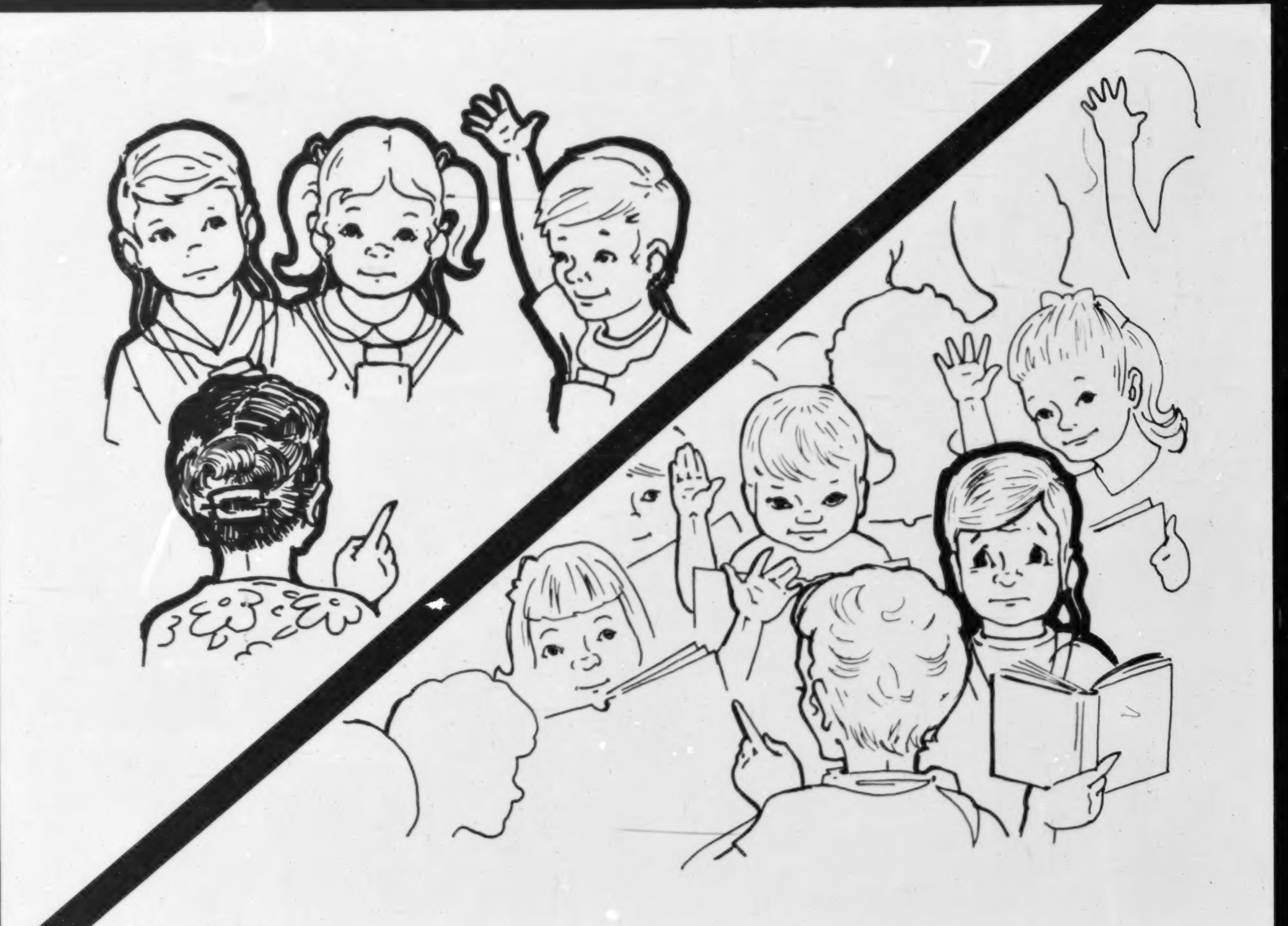
PHYSICAL
ENVIRONMENT

19 Black Base

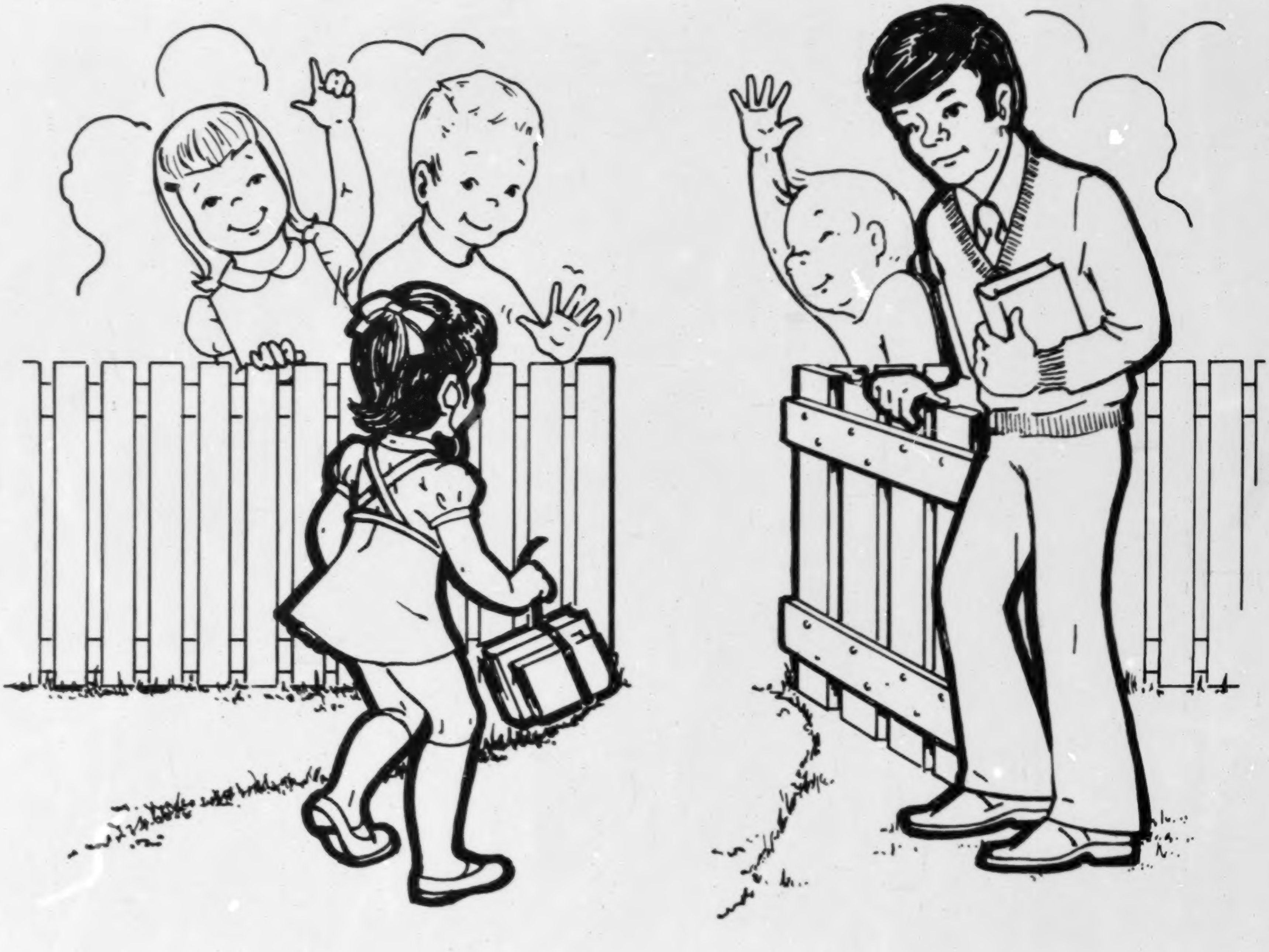




19Red [illegible]



20 Base - Black



21

PEER ORIENTATION